THE ATHENÆUM

Journal of English and Foreign Literature, Science, and the Fine Arts.

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UNIVERSITY OF LONDON.

THE ANNUAL EXAMINATION for the DEGREE of BACHELOR of ARTS is appointed to commence on MONDAY, the 2nd of October.

Candidates who show a competent knowledge in

1. Mathematics and Natural Philosophy,
2. Animal Physiology,
3. Classics,
4. Logic and Moral Philosophy,

will be approved by the Examiners.

Certificates must be sent to the Registrar fourteen days before the Examination begins.

By order of the Senate,
Somerset House, R. W. ROTHMAN, Registrar.
Aug. 17, 1843.

KING'S COLLEGE, London.—SCHOOL.—The THIRD TERM will begin on TUESDAY, the 19th September, when new Pupils will be admitted. Further information may be obtained at the Secretary's Office.

August 23, 1843. J. LONSDALE, Principal.

KING'S COLLEGE, London.—DEPARTMENT of GENERAL LITERATURE and SCIENCE.—The COURSE of LECTURES for the Matriculated Students will commence on Tuesday, the 3rd of October next.

DIVINITY..The Rev. the Principal and the Rev. the Chaplain.
MATHEMATICS..Professor the Rev. T. G. Hall, M.A.; Tutor, Rev. T. A. Cock. M.A.
CLASSICS..Professor the Rev. R. W. Browne, M.A.; Tutor, Rev. J. Brewer, M.A.
ENGLISH LITERATURE..Professor the Rev. F. D. Maurice, M.A.

The Classes for private Instruction in the Hebrew, Oriental, and modern foreign languages, under the direction of Professors M'Caul, Forbes, Brasseur, Bernays, Rossetti, and De Villalobos, will also be resumed on the same day.

Chambers are provided for matriculated Students desirous of residing in the College; and some of the Professors and Gentlemen connected with the College receive Students into their houses.

Further information may be obtained upon application at the Secretary's Office.

August, 1843. J. LONSDALE, Principal.

KING'S COLLEGE, London.—DEPARTMENT of ENGINEERING, ARTS, MANUFACTURES, and ARCHITECTURE.—The CLASSES will be RE-OPENED on Tuesday, the 3rd of October next.

MATHEMATICS..Professor the Rev. T. G. Hall, M.A.
MECHANICS..Professor the Rev. H. Moseley, M.A. F.R.S.
CHYMISTRY..Professor Daniell, D.C.L. F.R.S.
CHYMICAL MANIPULATION..W. A. Miller, Esq. M.D.
EXPERIMENTAL PHILOSOPHY..Prof. Wheatstone, F.R.S.
GEOLOGY..Professor Ansted, M.A. F.G.S.
PRINCIPLES and PRACTICE of ARCHITECTURE..Professor Hosking, F.S.A.
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LAND SURVEYING and LEVELLING..Mr. H. J. Castle.
Curator of the Museum and Superintendent of the Workshop ..Mr. W. B. Hatcher, A.K.C.

Persons may enter as occasional students for any special lectures which they may desire to attend, upon payment of the fees for the same.

Further information may be obtained at the Secretary's Office.

King's College, London, J. LONSDALE, Principal.
August, 1843.

UNIVERSITY COLLEGE, LONDON.—JUNIOR SCHOOL. Session 1843—44. Under the Government of the Council of the College.

Head Master—THOMAS H. KEY, A.M.

The School will OPEN on MONDAY, the 25th of September. The Session is divided into three terms—viz. from the 25th of September to Christmas, from Christmas to Easter, and from Easter to the 4th of August. The yearly payment for each Pupil is 15*l*., of which 5*l*. are paid in advance each term. The hours of attendance are from a quarter-past Nine to three-quarters past Three. The afternoons of Wednesday and Saturday are devoted exclusively to Drawing.

The subjects taught (without extra charge) are Reading; Writing; the Properties of the most familiar objects, natural and artificial; the English, Latin, Greek, French, and German Languages; Ancient and Modern History, Geography, both Physical and Political; Arithmetic, and Book-keeping; the Elements of Mathematics, and of Natural Philosophy; and Drawing.

Any Pupil may omit Greek, or Latin and Greek, and devote his whole attention to the other branches of Education.

There is a general examination of the Pupils at the end of the Session, and the Prizes are then given.

The discipline of the School is maintained without corporal punishment.

A monthly report of the conduct of each Pupil is sent to his parent or guardian. Several of the Masters receive Boarders.

Further particulars may be obtained at the Office of the College.

CHAS. C. ATKINSON, Secretary to the Council.

The COLLEGE LECTURES in the Classes of the FACULTY of MEDICINE commence on the 2nd of October; those of the FACULTY of ARTS on the 16th of October.

August, 1843.

UNIVERSITY COLLEGE, LONDON.—JUNIOR SCHOOL.—Mr. W. HASELWOOD, Private Tutor and Assistant Master, RECEIVES a limited number of PUPILS from the School.

The House adjoins the playground of the University, to which (with permission of the Council) a communication has been opened for the Pupil's recreation.

Mr. Haselwood undertakes the tuition of the Pupils under his care in the subjects connected with their College reading, and in those branches of education that have an immediate reference to their future prospects in life. Each Pupil has a separate bed; and, the number being limited, a Term's notice is required prior to removal.

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CITY of LONDON SCHOOL, Milk-street, Cheapside, established by Act of Parliament, and under the superintendence of the Corporation of London. Head Master, the Rev. G. F. W. MORTIMER, D.D., of Queen's College, Oxford.—THIS SCHOOL will be RE-OPENED for the next Term (extending to Christmas) on TUESDAY, the 5th of September. The year is divided into three Terms. Fee for each Term, 2*l*. 15*s*. The general Course of Instruction includes the English, Latin, Greek, French, and German Languages, Writing, Arithmetic, Book-keeping, Geography, History, and Mathematics. Persons desirous of entering their Sons as Pupils may obtain Prospectuses of the School, containing also particulars of the Foundation, Scholarships, and Exhibitions to the Universities, which are attached to it, together with forms of application for admission, at the Secretary's Office, between the hours of Ten and Four. THOS. BREWER, Secretary.

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August 26, 1843. GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

NOTICE.

THE ROYAL POLYTECHNIC INSTITUTION is CLOSED for a FORTNIGHT, for the purpose of fitting up ARMSTRONG'S HYDRO-ELECTRIC MACHINE. Its new and extraordinary powers will be exhibited at the RE-OPENING, with various other NOVELTIES, on MONDAY, the 11th of September.

IMPORTANT EXTENSION OF THE DESIGNS ACT.—By the Act to amend the Designs Act just passed, which comes into operation on the 1st September next, DESIGNS for ARTICLES of UTILITY, as well as Ornamental Designs, may be PROTECTED by Registration for the whole of the three Kingdoms for three years, at a small expense. For forms and further particulars apply to Messrs. Robertson & Co., Patent and Designs Registration Agents, 166, Fleet-street, London (Mechanics' Magazine Office).

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LONDON, SATURDAY, AUGUST 26, 1843.

REVIEWS

The Works of Montaigne. Edited by W. Hazlitt. Templeman.

MONTAIGNE appeared first in an English dress in 1603. The translator was Florio, Italian and French tutor to Prince Henry, the hopeful and lamented son of James the First. The second English version was that of Charles Cotton, in 1680, dedicated to the Marquess of Halifax, and perhaps the most successful translation in the literature of any European language. The judgment of Lord Halifax has been confirmed by critical as well as public opinion. "I have till now thought wit could not be translated, and do still retain so much of that opinion that I believe it impossible, except by one whose genius cometh up to that of the author. You have the original strength of his thought, that it almost tempts a man to believe the transmigration of souls, and that his, being used to hills, is come into the moorlands, to reward us here in England for doing him more right than his country will afford him." Editions of this celebrated translation appeared in 1776 and 1811, following the French edition of Peter Coste, but frequently impairing the vigorous beauties of Cotton's style, by way of modernizing his good, old, racy, and sterling English. To avoid this heinous error, at the same time correcting the inaccuracies and carelessnesses scattered through Cotton's work, has been the object of the present editor. To the Essays are added the Travels of Montaigne through Italy, Switzerland, and Germany, now first translated by Mr. Hazlitt, and well deserving of far more attention than has been yet accorded them. Prefixed is a biographical notice, also from the editor's pen; and a collection of the critical opinions of many eminent authors, French and English, upon the writings of the great essayist.

But we are wrong to speak of *the writings* of Montaigne: we should say *Montaigne* simply, for his writings are himself; his name would be the correct title for his Essays. To use an author's name as a synonyme for the productions of his wit, is a common figure of speech; but we say that we read *Montaigne*, without a prosopopœia. Never did a writer stand in so little need of a biographer; even the talent of his own Plutarch could add but few touches to the portrait of his own exquisite and faithful drawing. If he had a preconcerted plan, it was to present us with his life. In the few graceful words prefatory to the Essays, he thus speaks of his book—"It was intended for the particular use of my relations and friends, in order that when they have lost me, which they must do, they may find here some trace of my quality and humour, and may thereby nourish a more entire and lively recollection of me." And the Essays may well be likened to a master-piece of portraiture by Rembrandt. We not only read the author, but see and hear him; nay, we converse and chat with him, almost feel the cordial grasp of his hand, and know him as if he were our own grandsire, chirping his mild philosophy by our fireside. He seems coming out of his book, as we say a portrait by a great painter appears to be stepping out of the frame. His art consists in his honesty. "Had I been born among those nations who, 'tis said, still live in the pleasant liberty of the law of nature, I assure thee I should readily have depicted myself quite naked."

A marvellous deal has been written in censure and in praise of Montaigne's "egotism";—it has given offence to many, while to many it has been, and is, the spell and fascination of his works. Let us not be numbered for a moment amongst the censors. The egotism of Montaigne is not like any other egotism in the world. What has it in common with the "*Ego et rex meus*" of Cardinal Wolsey, referred to absurdly in the Spectator, as the only instance on record of a more "violent egotism" than that of the "lively old Gascon"?* Montaigne's is the egotism of the most perfect simplicity and candour—a quality that no writer can dispense with, who sits down, as he did, to "paint himself." No man who undertakes such a work can hope to escape the imputation of some degree of vanity; he must needs expose himself to the ridicule of vulgar minds, such as that of the younger Scaliger, who said, in allusion to the Essays,—"La grande fadaise de Montaigne, qui a écrit qu'il aimoit le vin blanc:—que diable a-t-on à faire de savoir ce qu'il aime?" Yet Scaliger condescended to be so minute himself in what related to Montaigne, as to acquaint the world that "his father sold herrings"!†

The I of Montaigne is *sui generis*. It is neither the *I* doctoral, cathedral, nor magistral. A less arrogant, opiniative, dictatorial, or pugnacious pronoun, never took precedence of a verb. It is not the *I* of rude polemics, but of politest conversation: the social, well-bred, good-tempered *I*, neither springing from morbid vanity, nor wounding legitimate self-esteem—an *I* never opposed to *you*; the most inoffensive, instead of the most adversative particle in the language. There is infinitely more vanity in Pascal's *on* than in Montaigne's *je*. Pascal pretended that an honest man ought to shun the naming of himself, and even the use of the words *I* and *me*. He taught the Jansenists to denote themselves by *on*; and their works were distinguished by an affected use of that indeterminate form of expression.

The Essays of Montaigne may be compared, for one moment, (as a biography) with the Confessions of Rousseau; but how broad is the distinction between the egotisms of the two writers! The mind of Rousseau was as distempered as that of Montaigne was healthy. "My defects," says the latter, "will appear to the life, in all their native form, as far as consists with respect to the public." To borrow the words of Mr. Burke, he had no "mad confession of mad faults" to make; but if any such had stained his character, he would not have "attempted a new sort of glory by bringing hardily to light the obscure and vulgar vices which we know may sometimes be blended with eminent abilities." The editor has collected, under the word "Montaigne," in his ample index, reference to the multitudinous passages in which this charming self-biographer informs us what manner of man he was. A glance over the catalogue will show that his vanity is not exhibited in parading or fondling any very serious breaches of morality. Here is one of his confessions:—

"I have an apish, imitating quality: when I used to write verses, they evidently accused the poet I had last read. I speak another kind of language at Paris than I do at Montaigne. I swear more by imitation than humour. When I swear my own oath, 'tis only, by God—of all oaths the most direct!"

This is not an apology for swearing in general, which he reckons amongst the vices; but it is certainly an egotistical preference of his own form of oath to any other; and how characteristic is the reason he assigns—"the most direct!" He then proceeds to plume himself on his superiority in swearing to Socrates, who "swore by his dog;" and to Zeno, whose oath was "*Cappari*" (by capers)—an interjection which, he adds, "is now in use amongst the Italians." Such shabby subterfuges the honesty of Montaigne scorned.

That he exposed himself by his writings to the charge of vanity and egotism he was perfectly conscious, and if he sinned, it was with open eyes. He wants no advocate on this point; he has most ably, and we think successfully, made his own defence. Take one passage, out of many, from the Essay entitled 'Use makes Perfect':—

"Every one, as Pliny says, is a good doctor to himself, provided he be capable of looking closely into himself. This is not my doctrine, 'tis my study; and is not the lesson of another, but my own, and yet, if I communicate it, it ought not to be ill-taken. That which is of use to me may also, peradventure, be useful to another. We hear but of two or three of the ancients who have beaten this road. Not one since has followed the track: 'tis a ticklish subject, and more nice than it seems, to follow a pace so extravagant and uncertain as that of the soul; to penetrate the dark profundities of her intricate internal windings, to choose and lay hold of so many little graces and nimble motions; and a new and extraordinary undertaking that withdraws us from the common and most recommended employments of the world. 'Tis now many years since that my thoughts have had no other aim and object than myself, that I have only pried into and studied myself; or if I do now and then study any other thing, 'tis to lay it up for, and to apply it to myself. And I do not think it a fault if, as others do by much less profitable sciences, I communicate what I have learned in this matter; though I am not very well pleased with what progress I have made in it. There is no description so difficult, nor doubtless of so great utility, as that of a man's self. Custom has made all speaking of a man's self vicious, and positively forbids it, in hatred to the vanity that seems inseparably joined with the testimony men give of themselves—

In vitium ducit culpæ fuga.

I find more evil than good in this remedy."

Again he says:—

"Perhaps they mean that I should give testimony of myself by works and effects, not barely by words. I chiefly paint my thoughts, an inform subject, and incapable of operative production. The wisest and devoutest men have lived in the greatest care to avoid all discovery of works; effects would speak more of fortune than of me. They are but patterns of one particular virtue: I expose myself entire: 'tis an anatomy where, at one view, the veins, muscles, and tendons are apparent, each in its proper place."

And he adds, a little further on:—

"They fancy that to think of one's self is to be delighted with one's self; that to frequent and to converse with one's self is to be over indulgent. But this excess arises only in those who take but a superficial view of themselves, and dedicate their main inspection to their affairs; that call meditation raving and idleness, looking upon themselves as a third person only and a stranger. Because Socrates had alone digested to purpose the precept of his God 'to know himself,' and by that study was arrived at the perfection of setting himself at nought, he only was reputed worthy the title of a sage. Whoever shall so know himself, let him boldly speak out, and make himself known."

The felicity of the illustration taken from anatomy, will strike every attentive student of Montaigne. As a dissector of the inner man he stands unrivalled amongst moral philosophers. Considering that the importance of self-examination and self-knowledge is one of the most hackneyed topics of the common herd of moralists, it is impossible to help complaining that Montaigne has not been applauded as he deserves for the courage and sincerity with which he prosecuted that arduous study. On the contrary, strange to say, he has been much oftener censured as a vain, presumptuous egotist, and upbraided with the very minuteness and fidelity of his self-disclosures! There has been

* See No. 562.

† The editor assures us that this was a mere calumny of the schoolman. But what imports it whether the father of a great wit was a fishmonger or a duke? Had the father of Scaliger been an emperor, his name would be no more to-day than what it is—the name of a pedant.

too little of such egotism amongst men of the same vigour of intellect and power of exposition. The philosophy of the human mind had otherwise been more advanced.

Taking a mere superficial view of Montaigne's engaging manner of chatting, rather than discoursing, about every little trait of his character and incident of his life,—reading his works for amusement more than instruction,—one is struck with their resemblance to the prose-poetry of Horace. A life of little Flaccus might be compiled out of the vivid notices, scattered unaffectedly through the satires and epistles, just as Montaigne's biography might be written from his Essays and Travels. Horace, too, was a self-inquisitor and a self-painter; and to his freedom from the Jansenist affectation, that proscribes the *ego*, we are indebted for the chief attraction of his writings. Further than this we do not press the parallel. Although Horace was philosopher as well as poet, there is no unity of philosophic purpose in his works; the mastery of a mighty science is not their pervading object; when he confesses an infirmity, an inconsistency, a foible, or a hobby, the confession is no part of a general profound investigation of his moral nature: besides, his anatomy is never deep, his research goes no deeper than the surface; "the dark profundities of the soul's intricate internal windings" are all unknown to him.

The discursiveness of Montaigne is one of the most prominent of his many singularities. He often chooses a subject apparently only to start away from it. He writes by digression, as the Parthians fought retreating. None so delightful to accompany; none so difficult to follow. It is comparatively easy to toil after the deepest thinker keeping the straight high-road of scientific reasoning; but how keep up with an inveterate rover, whose curiosity seduces him into every thicket on the wayside, and who deserts the line of march for every "lane and alley green" that leads aside from it, he cares not whither? The most eccentric comet that scampers through the firmament pretends to have an orbit, but who can determine the path of Montaigne? Sometimes the entire essay is a digression. He devotes one, for instance, to his opinion on physic and physicians,—it is entitled 'Of the Resemblance of Children to their Parents.' We doubt if Lord Halifax is right in the conjecture that Montaigne designed to conceal the scope of his observations by the irrelevance of the titles. The vagrancy of his literary habits is explanation enough. He was just as desultory in his mode of travelling, which was an exact parallel to the rambling of his style. The secretary, by whom the first part of his Travels was recorded, tells us that "when the other gentlemen complained of his leading them dances here and there to out-of-the-way places, he would reply—that, for his part, the particular place where he happened to be was where he had intended to come; that he could not possibly diverge from his route, seeing that the only route he had laid down was to go about seeing new places." And the following, how like it is to a figurative description of his writings:—"He took such delight in travelling, that he hated the very approach to the place where he designed to stay."

But let us hear how he talks himself of his aberrations and freaks on paper. He cheerfully pleads guilty to the charge of gipsy habits, and justifies himself by the precedent of Plato. Near the close of the long essay on Vanity, he says:—

"This medley is a little from my subject: I go out of my way; but 'tis rather by licence than oversight. My fancies follow one another, but sometimes at a great distance; and look towards one another, but it is with an oblique glance. I have read a dialogue of Plato, of such a motley and fantastic composition; the beginning about love, and all the rest about rhetoric. * * The titles of my chapters do not always comprehend the whole matter; they often denote it by some marks only. I love a poetic march by leaps and skips; 'tis an art, as Plato says, light, nimble, and a little demoniacal. There are pieces in Plutarch where he forgets his theme; where the proposition of his argument is only found incidentally, and stuffed throughout with foreign matter. Do but observe his mæanders in the Demon of Socrates. Good God! how beautiful are his variations and digressions; and then, most of all, when they seem to be fortuitous and introduced for want of heed. 'Tis the indiligent reader that loses my subject, not I; there will always be found some words or other in a corner that are to the purpose, though it lie very close."

Yet with all his "mæanders" and "poetic marches by leaps and skips," with all his scorn of system and method, the Essays have a philosophical unity of idea and design; the author steadily prosecutes his enterprise, and is *qualis ab incepto*. The very nature, doubtless, of his purpose, led him into the dissolute style which he adopted, for he must follow the motions and wanderings of the mind to note and examine its phenomena; and his design being to register his observations, not to weave any theory or system out of them, in what other order could he have given them to the world than the loose array in which they were suggested to himself?

He despised and detested the barren syllogistic art, in advance of him to whom was assigned the task of sending it into everlasting exile. Gladly do we seize this opportunity of quoting a passage of fresh and glowing eloquence:—

"The most certain sign of wisdom is a perpetual cheerfulness: her state is like that of things in the regions above the moon, always clear and serene. 'Tis Baroko and Baralipton that render their disciples so dirty and ill-favoured, and not she. They do not so much as know her by hearsay. 'Tis she that calms and appeases the storms and tempests of the soul, and who teaches famines and fevers to laugh and sing. She has virtue for her end, which is not, as school-men say, situate on the summit of a steep, rugged, inaccessible precipice. Such as have approached her find it, quite the contrary, to be seated in a fair, fruitful, and flourishing plain, whence she easily discovers all things below her; but to which any one may arrive, if he know the way, through steady, green, and sweet-scented walks and avenues, by a pleasant, easy, and smooth descent, like that of the celestial arches."†

As there never was a writer more untrammelled by the formalities of vulgar logic, so there was never a thinker more free from the mischievous mania of system-building. His star belongs unquestionably to the constellation of which Bacon (a generation later) is acknowledged to be the chief and brightest luminary. An ardent admirer of the ancients, Montaigne was uninfected with the scholastic pedantries of his times. His gentlemanlike tastes, no less than the force of his understanding, preserved him from the contagion of the learned dunces round about him. With his *air du monde* and his *air cavalier* he would have been monstrously misplaced amongst the pedants who reviled him; but it was his intellectual aristocracy that set him so far above them. No trace of the frivolous disputations of the day is discoverable in the Essays; no trace of metaphysical jargon; no houses raised upon the sand; not a vestige of that dauntless dogmatism, the certain recoil of which is a no less thorough-paced infidelity. Montaigne has been justly commended for "knowing how to doubt" in an age of ignorant assurance. Fifty years before Bacon made the wise observation, that "if a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties," Montaigne had illustrated the maxim by his own example. It has, indeed, been questioned whether he did not only begin, but end, with doubting, upon some subjects of high moment. "The radical fault of his understanding," says Dugald Stewart, "consisted in an incapacity of forming, on disputable points, those decided and fixed opinions which can alone impart force or consistency to intellectual character." Yet how many decided opinions upon points of great importance do we not find in Montaigne! How many of those enlightened maxims of government and education, now embodied amongst what we call common-sense notions, and forming the very elements of our reasonings, and even the grounds of some of our laws and institutions, may we not trace to the pages of the gallant, gay, philosopher of Gascony! Yet Stewart is right in applying his remark to the subject of theology, and equally correct in his view of the circumstances that tended, in the days of Montaigne, to confirm instead of checking the tendency to religious scepticism. "For remedying this weakness, the religious controversies, and the civil wars recently engendered by the Reformation, were but ill calculated. The minds of the most serious men, all over Christendom, must have been then unsettled to an extraordinary degree; and where any predisposition to scepticism existed, every external circumstance must have conspired to cherish and confirm it." Montaigne, however, appears not to have died upon "the pillow of doubt," which, living, he too much relied on. The writings of the reformers, and the lessons of Buchanan, disturbed his belief, without removing its foundations; and we cannot receive the testimony of his biographers without allowing that his death-bed was that of a good Catholic. Most certainly it was "decent, calm, and silent," as he had finely said "it was the study of his life" that it should be.

The present edition furnishes an index "to the authors quoted in the Essays," and by the number of references to each author, we may estimate the respect in which Montaigne held him. Plutarch is, of course, the highest in the list; and as we find Montaigne saying "I never seriously settled myself to the reading of any book of solid learning but Plutarch and Seneca," we are prepared to find the name of the latter at the head of the next most numerous batch of quotations; yet it is not so; Cicero holds the second place, which is strange, considering the severe, but, we think, just criticism in the essay "Of Books" on Cicero's philosophical works, which Montaigne observes are "those that are most useful to my design." However, in the Epistles to Atticus he delighted, and for the following characteristic reasons: "not only because they contain a great deal of the history and the affairs of the time; but much more because I therein discover much of his own private humour; for I have a singular curiosity (as I have said elsewhere,) to pry into the souls, and the natural and true judgments of the men with whom I converse." Seneca is third in place; and next to him rank Diogenes Laertius, Plato, and Horace, almost equally. Then follow Virgil and Lucretius neck-and-neck; and after these, Ovid, Livy, and Herodotus. He valued Diogenes Laertius highly, "I am very sorry we have not a dozen Laertiuses, or that he was not further extended, or better understood." Ninety-nine quotations out of a hundred are from the writers of antiquity; but he scarcely ever pays the compliment to a modern; Dante is referred to twice; Comines,

† This beautiful image, borrowed from the Ptolemæan account of the solar system, is employed by Milton in his 'Hymn on the Nativity.'

She, crowned with olive green, came softly sliding
Down through the turning sphere.

Froissart, and Guicciardini a few times each; Politian and Rabelais only once.

The abundance of quotation in Montaigne has been a subject of much critical discussion; and a great deal of shallow observation has been founded upon this peculiarity, as if it detracted from his merits as a vigorous thinker and original writer. But the quotations of Montaigne are after a fashion of his own, and a proof of his strength not of his weakness. He borrows as rich men borrow, for convenience, not out of necessity. There is as good money in his own exchequer as any that Cicero or Seneca lends him. The passages he cites are his own genuine and spontaneous thoughts, in the words of men who thought in ancient times as he did. They are aught but the *purpurei panni* ever so delicately inwrought and fine-drawn. We recognize them as part of his own rich stuff and cloth of gold. Plutarch himself would not charge him with larceny, or Seneca cry "stop thief." The quotation comes to Montaigne; he does not go to the quotation. Though it be true that half of his immortal essays may be found *literatim* in the writings of illustrious ancients, he is the most original of authors. When he avails himself of something that has been deeply, sagaciously, or poignantly observed by the wits of old, it is not his memory we admire, but his judgment; we never exclaim how well read is Michael de Montaigne in Plato, or, he has Tully at his fingers' ends! Cicero, in fact, cited in the Essays, ceases to be Cicero, and becomes part of Montaigne himself. Not an ancient in his library could have maintained an action for the recovery of one sentence in the work. "I quote others," he says, "only in order the better to express myself." This is nothing but the truth; he never quotes for display of learning, or for sake of embellishment, or to fill up a chasm occasioned by his own sterility, or to fortify a cherished theory by the *prestige* of a Greek or Roman name. No critic has better understood or stated the difference between the quotations of a writer of genius and those of a pedant or coxcomb. The effect of the latter he has hit off in his happiest manner:—

"A case in point occurred the other day: I was reading a French book, where, after I had a long time been dragging over a great many words, so dull, so insipid, so void of all wit, or common sense, that indeed they were only words, after a long and tedious travel I came, at last, to meet with a piece that was lofty, rich, and elevated to the very clouds. Now, had I found either the declivity easy, or the ascent more sloping, there had been some excuse; but it was so perpendicular a precipice, so wholly cut off from the rest of the work, that by the first words I found myself flying into the other world, and thence discovered the vale whence I came, so deep and low that I had never since the heart to descend into it any more. If I should set out my discourses with such rich *spoils* as these, the plagiarism would too manifestly discover the imperfection of my own writing."

In the multitude of quotations, the book that appears most to resemble the Essays of Montaigne, is Burton's 'Anatomy of Melancholy': we need hardly to say that there is no other point in which the two works admit of comparison. But what can be more different from Montaigne's system of quoting than Burton's? The citations of the latter are so many proofs of a thesis; documents accumulated in support of a proposition; a stringing together of all that an eccentric pedant's diffusive reading had stowed away in the repositories of his memory, demonstrative or illustrative of some section, or "subsection" of his fantastic work.

One could linger for ever over the enchanting singularities of Montaigne. Were his works to appear in a new form every change of the moon, we should be tempted to review every edition. His cheerfulness, his good-nature, his penetrating wit, the vernal freshness of his thoughts, and negligent beauty of his language, the vigour of his common sense, the shrewdness of his literary judgments, his perfect knowledge of the philosophy of daily life, all contribute to make his Essays one of the most entertaining and profitable works in any language. Antithesis is a dangerous and often very fallacious form of expressing opinion; but may we not truly affirm of this greatest of French writers, that he is learned without an approach to pedantry, discursive without being ever prolix, polished without elaboration, instructive without being magisterial or didactic, a philosopher without the rigidity of science, a speculator without the madness of system, egotistical without vanity and without offence, an aristocrat without the *morgue* of aristocracy, a moralist without being a puritan, and a wholesale appropriator of the thoughts and sayings of others, without being guilty of a single plagiarism in all his works?

Why have the Travels of such a man been so long neglected? The present translation by Mr. Hazlitt is their first appearance in an English garb. We promise ourselves the pleasure of noticing this feature of the edition before us on another occasion. Montaigne will be found with the same radiant countenance, the same serenity of mind, the same pleasant, portable philosophy, in the mountains of the Tyrol, and amidst the arts of Italy, as in the retirement of his own chateau.

King Henry the Second: an Historical Drama. Pickering.

In respect for one who has given us a valuable and thoughtful book, could change the natures of Prose and Poetry, 'Henry the Second' would rank among the best modern dramatic chronicles, since it owns the same parentage as the 'Essays written in the Intervals of Business.' But it by no means follows that a suggestive and benevolent thinker should possess the magician's ring or the minstrel's tongue, or be either poet or dramatist; and we discover in 'King Henry the Second,' not a drama, but a dramatic poem, modelled on 'Philip van Artevelde.' Now, seeing that the tendency of all copyists is to dilute excellencies and to exaggerate peculiarities, we can hardly fancy a less satisfactory model. The suppressed passion by which the author of 'Philip van Artevelde' produces his effects, easily degenerates into coldness and indifference—the philosophical quietism with which his speakers harangue, into feeble and characterless prosiness. At least we have warrant for our apprehension in 'Henry the Second,' which contains hardly a line which, if spoken, would make the ears tingle, or the heart throb, or which, when read, encourages Fancy to scale the heights, or Meditation to go down into the deeps,—as we fear the following quotation, a scene of more than average merit, will sufficiently demonstrate:—

Open space before the Convent of Canterbury.

Enter the Archbishop *attended by a multitude of Peasants singing. The Parish Priests with their crosses in their hands come in procession. The Monks of Canterbury receive the* Archbishop *with ringing of bells, and a hymn.*

Chorus.

A sound of holier joy pervades the earth
Than bells of marriage or of birth;
He comes: our guard on earth, our guide above,
The angel-bishop of our love.

Monks.

The captains of the world against him strive,
And wicked men his fall contrive;
In vain: there floats a halo round his head
Of heavenly powers; he knows no dread.

Peasants.

His face unto the poor was ever mild,
As father to a dying child;
With tears, for wounded hearts the balm and oil,
He comforted the sons of toil.

Chorus.

A sound of holier joy pervades the earth
Than bells of marriage or of birth;
He comes: our guard on earth, our guide above,
The angel-bishop of our love.

John of Salisbury. Hark now, the hymn! they love you with the love
Their pious predecessors bore St. Anselm.

Archbishop Becket. My dirge it is that they are singing; brother,
Do not imagine that I have returned
To peace and safety: I am come to die.
But while I live, no power of holy church,
Entrusted to my care, shall ever languish.
Already have the letters of the Pope
By my contrivance reached those priests of Baal,
And in such presence too, they dare not treat them
As the petty summons to some Baron's court.
They thought to have carried off by force these letters,
And to waylay me sent De Broc; as if,
Forsooth, ecclesiastical authority
Were to be met by rapine.

John of S. Oh, my lord,
Would that you had delayed these fearful missives,
If only for a time; your enemies,
Then seeing your forbearance, might in turn
Have ceased to vex you further.

Archb. B. Brother John,
Such counsel savours more of worldly wisdom
Than quite beseems a man of thy integrity.
I loathe these compromises; well enough
For marts, and for the money-lending tribe.
If this man's love of pelf, and that man's greediness
Would drag their victims widely-different ways,
And if at last a middle line be found,
It is a gain for both; but of this be sure
There cannot be a righteous compromise
Between a man's self-interest and his duty.
To find the path of duty may be hard:
That done, nothing of choice remains, but that
With singleness of heart we keep this path.
Where it may lead to is at best a question
For idle and for curious men, but fraught
With danger if it make us for a moment
Go faltering on our way.

John of S. Think of the perils
That now beset the Church! The Pope himself
Depends on the allegiance given to him
By Louis and the King of England.

Archb. B. So, brother, it may seem to worldly eyes,
And yet if all the kings on earth fell from it,
The church would undiminished still abide.
As some great rock left bare by fickle waves,
Which knows no kind of change, but is a beacon
Only to be further seen by their receding.
It is from such forbearance as you counsel,
That worldly powers grow insolent, and dare
To trample thus upon our privileges.
For be assured, my friend, authority,
Like other things in this decaying world,
Oft perishes from desuetude alone.

John of S. All this is true, my lord; but are there not
Due times and seasons ——

Archb. B. When authority
Is suicidal if it shrinks from contest.
And such a time is this. I say at once
That if St. Peter's sword had not leapt forth,
And met King Henry boldly, never more
Would it have been a terror to the nations.
We must not yield to force or blandishment.
Only in our last conference at Freitville,
The King spoke thus, "Ah, why not do, my Lord,
What I desire, and then should I put all things
At once into your hands."—I only thought,
Who in the wilderness it was that said,
"All this will I give thee, if thou wilt fall down
And worship me"—
This Henry is a prodigy of craft,
But had he been sincere, I humbly hope
That I should not the less have been unyielding.
Not to conciliate princes, but to control them,
Was power conferred on him who occupies
The see of Rome.

John of S. Granted, my Lord, but still
If it be well to bridle great offenders,
Let mean ones go unpunished for a time,
I hope, my Lord, you are not minded still
To excommunicate Ranulph de Broc,
Nor yet his brother.

Archb. B. But, indeed, I am.
To-morrow, after service, I will do it.
For seven long years, my friend, has this De Broc,
Son of perdition that he is, despoiled
The Church, and these my faithful tenants plundered.
As for his brother Robert, it was he,
The other day, who did that cruel injury
To one of my poor, harmless sumpter-horses.
Base ruffian! had he shown his malice thus
To me, myself, mayhap I could have borne it,
But this I cannot bear. These men shall find
'Tis not the husk of me that is returned,
The man himself is here. Brother, I know,
That I may perish, but before I do,
Assuredly I will avenge the wrongs
The Church has suffered.

Throughout the drama the action is mainly carried on by stage directions—but we have found fault enough.

Natural History of New York. 4to. Part I. Wiley & Putnam.

THE volume before us, the first part of an extensive work, intended to comprise the Zoology, Botany, Mineralogy, Geology, and Palæontology of the State of New York, is devoted to Zoology, and is very copiously illustrated. It is preceded by a memoir, giving the history of the State under all aspects, political, religious, scientific, &c., brought down to the present time. This Memoir is pleasantly written, in a liberal spirit, and contains some curious and much instructive information. As there has been a great deal of discussion of late respecting the educational clauses in the Factory Bill, our readers may like to know how they manage such matters in America. The school funds in the state of New York alone consist of endowments, grants and appropriations from the State and individuals, and amount to 10,500,000 dollars, which by law are declared inviolable:—

"The chief features of the common school system, are the annual election of commissioners of common schools by the people in the several towns; the division of towns, by the school commissioners, into school districts; the election of trustees in such school districts, by the inhabitants thereof; the erection and maintenance of a school house in each district, with funds derived from the tax levied upon the inhabitants by the trustees, in pursuance of a resolution passed at an annual meeting of the inhabitants; the employment of teachers whose qualifications are approved by inspectors elected by the people; a contribution by means of taxation in each school district, of a sum equal to that apportioned to the district out of the public funds; the supplying of any deficiency in the funds necessary for the support of the schools, by the charging of tuition fees upon such parents and guardians as are of sufficient ability; the exemption of the poor from all charges for tuition fees; the maintenance of a school in each district, not less than four months in each year; the visitation and examination of schools by the inspectors, and by a deputy superintendent of common schools for the county, the latter officer being appointed by the supervisors; and a supervision and care of the entire school system of the state, by the secretary of state, who is superintendent of common schools, and to whom annual reports of the condition, progress and statistics of each school district are made by the trustees thereof; the maintenance of schools wherever necessary for the education of children of African descent; the maintenance of normal schools in the most flourishing academical institutions, for the instruction of teachers of both sexes; the publication and distribution to each school of a periodical journal, exclusively devoted to the cause of education and not of a sectarian or party character, and in which are published the laws of the state, the regulations established by the superintendent, and his decisions upon questions affecting the organization, administration and government of the schools; and a comprehensive annual report to the legislature by the superintendent, of the condition of the schools throughout the state. The whole number of school districts in the state is 10,886, in which schools are maintained during an average period of eight months in each year. The number of children instructed is 603,583. The whole amount of money expended for the payment of wages of teachers is $1,043,000."

The "school district libraries" must also be considered as an important part of the system—they have been established by law in most of the principal towns, at a cost of about half a million of dollars, and are exempt from all taxes.

The following passage contains a summary of the history of the American press:—

"The earlier newspaper press was extremely circumscribed in its scope and powers. A newspaper rarely exceeded in size half a sheet of foolscap. It was a mere compilation, often crude enough, with 'the freshest advices foreign and domestic.' How 'fresh,' the reader, in this day of railroads, steam packets, and second and third daily editions, will learn not without amusement, from the fact that sixteen years after a newspaper was established in Boston it proposed to issue a half sheet every other week; by which hazardous enterprise it was hoped that the time between the paper and the latest European news, then thirteen months, might be reduced to five. For many years the 'Boston News Letter' contained no more than two advertisements. Until the close of the revolution, no newspaper was issued oftener than once a week; but with the progress of political events, the press assumed a higher position, and put forth greater energies. * * So rapid was the increase of newspapers, that in 1810 the number of such publications in the United States amounted to three hundred and fifty-nine, of which sixty-six were printed in this state."

Upwards of 300 newspapers are now published in the State of New York alone, a hundred times the number that existed in that State at the close of the Revolution, and eight times the number of all the papers published in America at the same period.

Consuelo. By George Sand. 6 vols. Paris.

Madame Dudevant has rarely taken pen in hand without attempting to set forth in fiction some peculiar theory of Art, Religion, or Social Life. She combines all her favourite themes in the present novel: or, to speak more exactly, moiety of a novel. It is, indeed, an odd feature of these hurrying and superficial literary times, that the prolixity in fiction of the De Scuderis and Richardsons, which our fathers used to deride, should be revived. Nine volumes, for instance, are devoted to the deeds and misdeeds of the Widow Barnaby! as many to 'Les Mystères de Paris,'—that most poisonous of all the extravagancies circulated by the French periodical press—with probably as many more to come; while, in the tale before us, after having conducted 'Consuelo' to a crisis in her fate, George Sand breaks off, with the promise of a sequel in 'La Comtesse de Rudolstadt.' Nor need our authoress be dismayed by fears of such a consummation as was threatened to the English novelist, when it was rumoured that a continuation of 'Clarissa Harlowe' might be expected from the summer-house at Parson's Green:—

> Through six long volumes Clara lived
> And in the seventh expired;
> Six thousand pages travelled o'er,
> No wonder she was tired!
> Resume, O Richardson, thy pen,
> And all the other five,
> We, too, shall share our heroine's fate,
> No reader left alive!

Whether her readers sigh with sympathy, or shake their head with displeasure, few who take up 'Consuelo,' will be able to lay it down without a feeling of curiosity as to the chances still in store for the heroine of so many wonderful adventures. There is a power of description, a persuasive eloquence in Madame Dudevant's manner, which go far to reconcile us to improbabilities as flagrant as those we must now advert to.

The tale opens in that chosen home of romance and music, which no one—Byron, Schiller, Otway, Mrs. Radcliffe, Cooper, and 'Cecil' not excepted—has described with such intimate truth and vivacity as our authoress. A soured, wrinkled, conscientious, old *maestro*, the very Porpora whose *trilled fugue* makes a perennial figure in all collections of musical anecdotes, is discovered scolding the songstress of the *Scuola dei Mendicanti*, an orphan, of gipsy complexion, and mysterious origin, who has already made herself the most impossibly perfect singer that the world has ever heard. But the charm of Consuelo's character is a purity and wisdom united, yet more fabulous, under the circumstances, than her prodigious musical accomplishments. She is poor, to the point of misery, with but two friends; the one, her crabbed old pedagogue, who loves her voice, her method, and the unfashionable patience with which she receives scientific instruction for the love of art's sake: the other, a handsome, profligate, Venetian boy, (in whom, we presume, Madame Dudevant shadows forth Artistic life, in the coarse and sensual acceptation of the term,) Anzoleto, also a singer, in embryo, but as regardless of all higher aims than money and flattery, as Consuelo is humble and reverential. The two have been long betrothed: and only wait for the means to marry: the maiden being ignorant of the youth's real character, and having staked her all upon his love and protection. They make their *débuts* on the same evening, when Consuelo's talent throws her lover's into the shade. Impatient at the idea of being merely considered as an appendage, and unwilling to take the labour requisite to perfect himself, Anzoleto falls into the snares of La Corilla, a waning actress, whose popularity is also dimmed by the blaze of this new star. His infidelity becomes known to Consuelo, and goaded by this, and by the dishonourable advances of the Venetian nobleman who has brought her forward, she suddenly leaves the field clear to her unworthy lover and her rival, and, availing herself of Porpora's intervention, disappears, no one in Venice knows whither.

So far the story is probable enough: the preternatural gifts and acquirements of 'Consuelo' excepted; and managed with all Madame Dudevant's art. She is profound in her knowledge of male frivolity and selfishness. Her last novel, 'Horace,' (compared with this, an insipid and dreary story) is admirable as a study of egotism. But among the male virtues she makes but wild work, as we shall presently see.

The scene changes in a breath, from the Corte Minelli and the Teatro San Samuele to a castle in Bohemia, inhabited by a proud and ancient family of nobles. The group is drawn with great power of outline and probability of detail, one member excepted: but he, alas! is the main figure. If Anzoleto be the personification of Sense, to whose assaults the artist is exposed at every turn of his career, Albert von Rudolstadt, we presume, is intended for the *avatar* of Spirit. But in this part of her task, as on every former occasion, Madame Dudevant's philosophy is insufficient for her purpose. It would seem impossible for generosity, chastity, and devotional feeling to present themselves to her, save in preternatural forms. This tendency towards the marvellous, in one who so strangely defies every established creed, will strike many with astonishment: as if there were any other refuge for a fervid and poetical spirit, resolute in shaking itself loose from all authority: weary of destroying, yet possessing no foundation whereon to build! But Count Albert is the most bizarre of all Madame Dudevant's religious monsters! He is parcel monomaniac, parcel religionist, parcel magnetist; the inspired being whom the Orientals worship—an object of admiration, of distressful anxiety to his father, his uncle, his aunt, and the Canoness (one of Madame Dudevant's most characteristic figures). Into the midst of this family Consuelo drops as from the clouds, *Maestro* Porpora having been commissioned to send the young baroness a humble friend, able to forward her musical studies. From the moment of Consuelo's entrance, nay, before her arrival, thanks to his mesmeric foresight! she exercises a powerful influence over Count Albert. It is a strange *travestie* of the position of Sir Charles Grandison and Clementine: and the exertion which Consuelo makes to turn her power to good account, and to charm away the dark shadow from Count Albert, are as monstrous as the general conception of his character, and yet, in this, well-proportioned to their object, and therefore not altogether improbable, when taken in conjunction with the rest of the tale. But she cannot love him: with the coronet of a countess

to tempt her, she remains timid, distrustful of herself, disturbed by yearnings after her artistic career, and by memories of the faithless friend of her childhood. By a permissible novelist's trick, Anzoleto reappears on the scene just when the conflict in her mind is raging the highest, tempting what may be called the *gipsy part* of her nature. Betwixt Sense and Spirit how shall the maiden choose? Consuelo flies; her reason and respect are with him she has so vitally served; but there is an impulse which so perilously entices her towards the other who has wronged her, even while she fully admits the wrong, that she flies as the only means of salvation. There is relief in the very escape from immediate decision.

We have purposely hurried over this act of the drama, feeling, for the reasons given, its vagueness and imperfection. Leaving a word of hope, and a promise that she will search her heart closely, by way of comfort to the pale, mysterious, and high-minded count (whose delicacy to her is not without parallel in the annals of manhood and artistic life), Consuelo takes flight for Vienna, to which metropolis Porpora has been transferred in the train of the Venetian ambassador. Here, not to speak irreverently, the harlequinade of the romance begins. Not even in 'Wilhelm Meister' are the pleasures of vagabondizing painted with greater unction than by Madame Dudevant. Her heroines have the same delight in roaming for liberty's sake, as Lady Morgan's in masquerading for the good of mankind. And hardly has Consuelo gone a stone's throw from the Giant's Castle, where her artistic enthusiasm had suffered so weary an imprisonment, when chance sends her such a playfellow as never songstress was favoured with—who but Joseph Haydn! and, of course, the two sit down by the roadside, tell each other all their stories, and then set off as lovingly in company as the *tenore* and *prima donna* of an opera, expecting adventures, to meet which Consuelo equips herself in Rosalind's fashion. Of course they are not disappointed. The fourth volume of the novel before us contains some capital adventures; Consuelo and her playmate deliver a Prussian deserter from the hands of a recruiting party; they improvise a village mass, and fall in with a Canon, with royal blood in his veins, the very *beau ideal* of a musical, benevolent *bon vivant*. Perhaps the pictorial powers of our authoress were never more felicitously displayed than in the description of this dignitary's sybaritic hermitage, and his household. It is like the best Flemish painting, with a touch of fancy and elegance not belonging to the artists of the *Pays Bas*. Much as it must suffer in the process of paraphrasing, we cannot help loitering for a moment in the enchanted land:—

It was a calm and fair night, with a full moon in a cloudless sky. The clock of the old Priory was striking nine, with a clear and solemn chime, when Joseph and Consuelo, having in vain sought for a bell at the gate of the enclosure, made the circuit of the silent dwelling, in the hope of finding hospitable entertainment. It was in vain: not a dog barked; not the smallest light was to be seen in the windows of the gloomy building. "We have arrived at the palace of silence," said Joseph, gaily; "and if yonder clock had not twice announced the four quarters in *ut* and *si*, and the nine strokes of the hour in the *sol* above, I should fancy the place abandoned to owls and spirits." * * "Yet if we are compelled to sleep in some chapel," said Consuelo, "here I will pass the night. Let us try at any rate to make our way in, over the wall: it cannot be difficult to scale." No sooner said than done: the wall was a low one, and in two moments the audacious pair were walking tranquilly within the sacred precincts. It was a beautiful kitchen garden, kept with delicate care. The fruit trees, on espaliers, extended fan-wise their slim branches, loaded with crimson apples, and pears as yellow as gold. From the trellises of vines, disposed in arches, heavy bunches of the richest grapes hung like so many chandeliers. Even the luxuriant beds of vegetables had a certain beauty. The asparagus, with its silken filaments, glistening in dew, made a Lilliputian pine-forest, covered with a silver gossamer; the peas entwined themselves into slight garlands, or formed long avenues, in the shadow of which might be heard the chirping of the small bird, not wholly hushed for the night. The sunflowers, gorgeous giants of this green empire, lolled heavily their golden disks, on their ample and dusky leaves. The young artichokes, like so many young princes, were set in formal order round the great crowned head in the centre. The melons under the glasses resembled plethoric mandarins in their palanquins, and the moonshine, falling on these tiny domes, crowned each as it were with a large blue diamond, round which the moths fluttered, attracted by the glimmer. A hedge of roses formed the line of division between the kitchen garden and the parterre, the latter circling the house with a positive wreath of bloom. Magnificent flowering shrubs gave shelter and relief to a collection of the rarest and most fragrant plants. The gravel on the walks was as soft underfoot as a carpet; the turf so fine and smooth that one might have fancied that every blade of grass had been separately tended; the flowers so crowded that the earth was hidden, every bed seeming to be an overflowing basket. * * The Priory was a small building of the twelfth century, once fortified with battlements, which had now given place to steep gables of gray slate. Heavy masses of ivy broke the monotony of the walls, and the bare spaces, steeped in the moonlight, were crossed by the flitting shadows of a few young poplar-trees; the doors were festooned by the vine and the jasmine, which also peered into the windows of the mansion.

Never, surely, was a kitchen garden represented in such glowing colours, even by the rapturous imagination of a Brillat-Savarin. 'Consuelo' is full of such exquisite and minute painting. We had marked for paraphrase the interior of a theatre by daylight, the truth and strange fantasy of which would do no discredit to Hood or Hoffman, but have resigned it in favour of the scene just rendered. Capital, too, in the *false*-Watteau style, is the description of the *fêtes* given by the ridiculous *dilettante*, Count Hoditz, through which Frederick of Prussia stalks *incognito*—silent, sarcastic, and observant.

To return, however—while sojourning in this palace of dainty delights, Chance, the Fairy, enables the forgiving Consuelo to render essential service to her old rival, La Corilla, who passes that way also, on her road to the Opera of Vienna. Thither, too, we must wend, and find ourselves at once in the midst of a crowd of celebrities, headed by *King* Maria Theresa! The reader will, possibly, be curious to see in what *tones* Madame Dudevant has painted the portrait of this distinguished woman. We must premise, that on Consuelo's return, Porpora strained every nerve to revive and encourage her theatrical ambition; holding sincerely that the crown of a *prima donna* is worthier pains and patience than the coronet of a Rudolstadt; and to this end mystifying and intercepting her correspondence with the recluse Count of the Giant's Castle. But a thousand obstacles prevent the accomplishment of his wishes: among others, the scrupulosity of Maria Theresa, who had been acquainted by Consuelo's rivals with some gossip respecting the intimacy between the *cantatrice* and the symphonist in embryo, and who piqued herself—as all the world knows—upon favouring no artist whose character was otherwise than moral:—

It is known that Maria Theresa gave audience once a week to every one wishing to approach her, a hypocritically paternal custom, religiously maintained by her son, Joseph the Second, and which still flourishes at the Court of Austria. Besides this, the Empress willingly granted private audiences to those who were desirous of entering her service: never, indeed, was sovereign more easy of access. Porpora had, at last, obtained the wished-for musical audience, at which the Empress, on making a nearer acquaintance with Consuelo, might, perhaps, be prevailed upon to express a decided interest in her behalf. Thus, at least, hoped the *Maestro*. Well acquainted with Her Majesty's requisitions in the matter of good conduct and decorous behaviour, he said, within himself, that she must be struck, beyond all doubt, with the evident frankness and modesty of his pupil. They were introduced into the private apartment of the palace, where also a harpsichord had been conveyed. After half an hour's waiting the Empress arrived. She came from the reception of some personages of importance, wearing still the dress of state, such as is to be seen on the medals struck during her reign; a robe of brocade, and an imperial mantle; with the crown on her head, and a small Hungarian sabre at her side. In this costume she looked, indeed, beautiful! not as her courtiers loved to paint her, wearing an imposing air of super-human nobility; but fresh, cheerful, with an open and happy countenance; a mien confident and enterprising. It was none other than that *King* Maria Theresa whom the magnates of Hungary had proclaimed, with drawn swords, on that day of enthusiasm: but a first glance showed a good rather than a great King. She had no coquetry: the familiarity of her manners bespoke a mind at once calm and devoid of the affectations of her sex. Yet those who looked at her long, above all, if she questioned them with perseverance, might detect something of *finesse*, something even of deliberate craft, in her smiling and affable physiognomy: but the craft was masculine, imperial—never frivolous or womanish. "You shall give me a hearing of your pupil presently," said she to Porpora. * * "But I wish first a little private conversation with her. I must put several questions to her, and as I count upon her frankness, I have good hopes of being able to extend towards her the protection which she entreats." * * On finding herself alone with the mother of the Cæsars, the heroine of Germany, and the greatest woman who at that time existed in Europe, Consuelo felt neither troubled nor intimidated. Whether the carelessness of the *artiste* rendered her indifferent to the armed pomp which shone round Maria Theresa, even to her costume, whether her noble and independent spirit felt itself on a level with the highest moral greatness, she awaited with calmness the questions of Her Majesty. The empress seated herself on a sofa, played with the jewelled band which fretted her round and white shoulder, and began.

We will spare our readers the homily of the Empress, inasmuch as she imagined herself discharging maternal and moral duties in ordering the amusements of her people, while, in reality, indulging her curiosity. She had pre-arranged a scene in which Consuelo was to confess her passion for Joseph Haydn, and herself first to advise, then to encourage the same; the whole winding up with a nuptial benediction. But Consuelo was a bad courtier; had no story to tell, no pardon to entreat, and, most of all, no desire of being fitted with a husband by so despotic an arbiter of proprieties. The more the imperial querist pressed and sermonized, the sturdier became our heroine's resolution: a different group this of the queen and the subject from that exhibited by Scott in Greenwich Park, and one in the execution of which the novelist slily "feeds fat" her grudge against royalty.

"Well," burst in a subdued voice from Porpora, who had waited in the gallery shivering with cold, and writhing with anxiety and impatience—"Well! we carry the day I trust." "On the contrary, master, we fail," was the reply. "And thou sayst so calmly!" * * "Do you recollect, master," said Consuelo, "what we said of the great minister Kaunitz, when coming from the Margraves"—said? "that he was an aged gossip!—and so he has been making mischief?" "Without doubt; and I will tell you something more. Her Majesty the Empress and Queen of Hungary; she is a gossip, too!"

The sequel to this interview, was the engagement of the false and vicious Corilla, preferred by the empress on the score of character! The tale is full of like sarcasms.

In the train of Maria Theresa, figure Prince Kaunitz, Baron Trenck, Metastasio, Caffairello, &c., and *la* Tesi. We notice this last musical celebrity in particular, though she is here introduced merely in the background; because, strangely enough, to her belonged a romance, the reality of which may possibly have suggested the idea of Consuelo's delicate position with regard to the noble German family. The Tesi was sought by an Austrian count of many quarterings in his escutcheon: to whom, moreover, it is said, she was attached. His family interposed; appealing to her generosity, and representing the disastrous consequences which must ensue to an old and noble house, should its heir make so terrible a misalliance. The *prima donna* proved herself equal in pride, to those who stooped to this humiliating appeal. There was a baker, in the next street, who had long conceived a hopeless passion for the brilliant *artiste*. Him Tesi sent for, and married; to place herself, she said, irrevocably beyond the reach of injuring or of being injured.

We must content ourselves with sketching rapidly the further adventures of Consuelo. After much difficulty and intrigue, at last, partly owing to an impulse of gratitude on the part of La Corilla (whose character is admirably developed) she reappears on the stage—and, as before, eclipses every body. But, according to the perversity of nature, her very triumph disgusts her with her profession, and disposes her to think with yearning of the purer and more elevated life waiting her acceptance. She writes to this effect, to Count Albert; but Porpora—for her good—as he thinks, intercepts the letter: in the end she is recalled by express to Riesemburg—where she finds her noble lover, smit to death by her unaccountable silence, and by the withdrawal of the influence she had exercised over his disturbed brain. To gratify his entreaties, and at the solicitation of his family as a last experiment, she consents to the performance of the marriage ceremony; in the very moment of which he expires. One night his widow watches by his corpse—and the next day, is peremptorily dragged thence by the engagements of her artistic career—a virgin Countess of Rudolstadt, of whose story we are promised further tidings on a future day.

It is not difficult to explain, why we have devoted so much space to a production so wild as this novel, fuller of extravagancies than even of deep thoughts and marvellous beauties of detail. Be its views right or wrong, distorted or natural, the aim of this novel is to consider the mutual relations of art and society: and the subject is one of great and increasing interest. To reconcile "the children of fire," with the more useful and practical race of "hewers of wood and drawers of water:" to encourage a trustful reciprocation of tolerant sympathies; to preach the noble moral, that the highest art cannot be reached without the highest virtue, is a labour Madame Dudevant can never completely nor consistently accomplish, her mind having lost its purity and balance. Nevertheless, enough of what is true and noble is set forth in 'Consuelo' to engage all those who are philosophically interested in the subject; while as a romance, it is full of contrast, adventure, and interest.

The Discourses of Sir Joshua Reynolds. Illustrated by Explanatory Notes and Plates, by John Burnet, F.R.S.

[Second Notice.]

In his annotations Mr. Burnet puts forward, and foremost as he ought, one great principle—unremitted attention to Nature, the mother of artistic excellence, whose claims, forgotten sometimes but always surviving, he presses with affectionate zeal. Though a truism, and often repeated, this principle never sounds trite, because, like a great moral commonplace, it is above measure momentous; and tautology about it we consider even more than pardonable—a devoir, a positive merit, which amounts almost to a beautiful figure of speech. So the Carpathian wizard's reiterated *te, te*, has a fine tiresomeness that echoes the very sense of his expressions, and proves him a cunning poet:

> Te, dulcis conjux, te solo in littore secum,
> Te veniente die, te decedente canebat.

On the other hand, we think him (Mr. Burnet, not Proteus,) scarce respectful enough towards the father of artistic excellence,—*Art*. For let the opposite factions of naturalists and idealists cry up their separate dogmas as they will, excellence springs neither from nature nor art, but from both, from the marriage between them and their perfect incorporation, she fundamental, he predominant. Certain critics, somewhat less bigotted, admitting the banns, still keep apart those whom Heaven has joined, or at best make their conjunction resemble that of two stars when one eclipses its companion: "get thee behind me," shouts he or she, as if each were the other's evil genius instead of helpmate! Equality between them—equal indispensability—is the principle which our annotator should, we submit, have enounced, developed, justified, and sustained throughout his commentary. A painter or sculptor cannot by art alone produce artistic excellence; no more can he by nature alone; his works in the former case would be artificialities, in the latter, mimicries—servile copies of originals that a looking-glass or transparent roof would portray much better. If we want to see Nature, let us go and look at herself; why look at her through a piece of canvas or marble? You extol Mr. R. A.'s "Alehouse Door" as so natural—the very thing itself!—the clowns yawning on the benches—the chub-faced children hanging about the hatch—the two pipes laid criss-cross inside the lozenge-pane—the picturesque donkey with its long ears awry, and the cur-dog with its short ones erect—&c., &c.: Bless us! if this be all, there is a Red Bull or Green Dragon every hundred yards of high road, where we have clodpates, big and little, pipes, donkeys, dogs, &c., in abundance! what can you wish more?—these are indeed the very things themselves you seek for—natural beyond the power of Prometheus, were he an R. A., to imitate! You admire Paul Potter's "Ox" or Pickersgill's "Alderman," forsooth, because it is so like a *real* ox, a *real* alderman: pray tell us wherefore you visit a picture-collection to admire the mere semblance of either, when you need only visit Smithfield or Guildhall to behold the quadruped or biped itself? Pray tell us the use of art, when by your supposition all it should do, the omnipotent Paintress and Sculptress has done far better—explain its dignity, when your most perfect artist must be a mixture of ape and mechanical engine? Such a hypothesis once granted, the Fine Arts become contemptible as a pursuit, and idle as a pastime. Reynolds long ago raised his voice against the half-true principle of "nature and nothing but nature"; Quatremère de Quincy in his work *Sur l'Imitation* (see our analysis No. 503) dissects and denounces it; every artist should cry out trumpet-tongued at the deep degradation to his profession it implies. There are few subjects on which small philosophers and shallow enthusiasts talk so much grave nonsense. We consider it essentially an opinion of *middle-class mind*—begetting middle-class works—works reaching the various medium heights of merit, never the loftiest. Mr. Burnet, we fear, has fallen a little deeper than the eyes into this popular prejudice. Reaction from the previous extreme (love of the ultra-ideal) may have brought about the present taste, which if wholesomer, is nevertheless uncatholic also. Why paddle out of Scylla's mouthstraight across into the maw of Charybdis? A plain if not very broad, a safe if rather straight passage, lies between them! *Medio tutissimus ibis*. Verily Phaeton fell from heaven in vain!

Perhaps we do our author wrong to rank him with ultra-naturalists. Was the subjoined "popular illustration" but a momentary hallucination? Criticizing a remark of Sir Joshua's (rather the letter than the spirit), he says, p. 170—"In the later works of the Greeks, the unsophisticated character of the human form seems to have guided the chisel; and had Reynolds lived to witness [see?] the Elgin Marbles, he would have acknowledged the supremacy of beautiful nature, uncontrolled by the severe line of mathematical exactness; the outline of life, which changes under every respiration, seems to have undulated under the plastic mould of Phidias; and on their arrival in England, when Gregson the boxer was stripped before Theseus, the origin of its excellence was evident to all." We shall not analyse the various other theories in this strange passage, but—Theseus an excellent statue because it resembled *Gregson the boxer!* Here is transcendental criticism! Here is the sublime poetic philosophy of sculpture! Why, then—if that were the criterion of excellence—why, then, we ask, not have taken a cast from Mr. Gregson's person *in puris naturalibus*, and so procured an additional Phidian statue? What an eternal boast and blazon about our Elgin Marbles! Wherefore not cast, man by man, the brawny, sinewy, proficients in the noble art of pugilism, or the picked rank-and-file of the Foot Guards, and, with these for models, raise a whole regiment of Elgin Marbles? What an accession to our "treasures of art!" How the pure Attic taste would be propagated! Every private gentleman might then have Greek master-pieces (or equally good, on Mr. Burnet's principle) at the price of gate-posts! We might have *Theseuses* as plentiful as King Georges and King Charleses, to adorn each square and street crossing; *Theseuses* to preside over all the London pumps, and all the spas throughout England! Then could we obtain, without trouble, busts to stick upon the headless trunks of the Parthenon divinities, besides arms, legs, &c. to suit; and thus patch up the British Museum fragments into complete figures, beautiful as Phidias's own conceptions! Ah, no! ye simple-hearted enthusiasts for nature and nothing but nature: the heights of criticism are not just like Primrose Hill, to be scaled some fine afternoon—they are little less above the common sea-level of taste, than heaven above the horizon! No, with Mr. Burnet's leave, his origin of excellence far from constituting the excellence of the Theseus, or even of a Pollux, would scarcely constitute the excellence of a King Amycus. The true origin is something very different; perhaps unknown to Mr. Burnet; certainly unknown through *his* means to his reader. Phidias, if he lived now, would never *Gregsonize* in his godlike forms, nor found the excellence of his *Athletes* themselves on their being modelled after any boxer, were he the flower of Moulsey Hurst, the pearl of the prize ring. Canova committed a most vulgar mistake when he took his classical pugilists, Creugas and Damoxenus, from Italian Gregsons.* What a flattering opinion it would give of the elegant, fine-limbed Apollo Belvidere, to tell us he was the ditto or the corrival of "Gentleman Jackson!" Alas, alas for English art if such be English artistic criticism!

* Have the Boxers of the Tribune, albeit "light weights," very much of a *Jack Randall* character? and if they had, would that form their chief merit?

We have often regretted that none of our philosopher-poets should take up and investigate the subject of Mute Poetry; a subject which they are best fitted, by congenial spirit, to expound. Practical treatises, good or bad, glut the book-shops. Admirable scientific works, both from the hands of professors and literary amateurs, may be had in less abundance. But our Wordsworths, Coleridges, and Byrons, unlike the Goethes and Lessings, leave to subordinate cultivators a province of poetical land, vast and fertile, and, moreover, an appendage of their own. Why should the Muses' first-born, perhaps favourite daughter, despise or neglect her half-sisters! It is unamiable and unnatural. Nothing, however, evinces better the low repute in which these countries hold the fine arts, maugre the extensive patronage, the sumless praises and pounds sterling lavished on them. A great poet or philosopher disdains to study them; and well he may, as (admitting all their brilliance and prettiness) they are practised here. Burke alone, when young, and when they were of a higher mood, embraced their cause: had he not afterwards—

To party given up what was meant for mankind—

namely, his genius, he would perhaps have mastered their true principles, and raised the national standard of taste by a far sounder work than his 'Sublime and Beautiful.' Nothing can better demonstrate, too, how much that vaunted interest, felt or feigned towards art, is mere matter of idle *dilettanteism* and ostentatious splendour among our aristocrats—among our middle classes of simple amusement to the eyes, or, at most, of superficial, ephemeral amusement to the mind; and not seldom, even among them, mere matter of handsome house-furnishing, family pride, or affectation, &c. We might have added, of trade, profession, and livelihood—extrinsic, though fair and respectable motives. Nothing can better evince, we say, how very distinct that interest is from real *love* and abstract taste for the arts, than the fact of their being deemed unworthy to employ thought or pen by our pre-eminent poets and humane philosophers, whilst German and French authors of the highest rank devote their highest powers to exalt what are held so estimable throughout all classes of their fellow-countrymen. Hence the state of English *æsthetics*.

Would any philosopher-poet, let us ask, allow, in the present age of criticism, one most erroneous and injurious principle to pass without due correction, namely, that "pleasure is the end of art"? Sir Joshua perhaps echoes this after his Sir Oracle—Johnson; and it must have been a pure oversight with Lessing, the spirit of whose whole treatise contradicts it (*Athen.* No. 713). We are not unreasonable enough to have expected from Mr. Burnet, who sets up neither as poet nor philosopher, but simple F.R.S., any counter-blast against such a pernicious doctrine; we only deplore the mental *malingering* which infects the ranks of our lettered men, causes the ablest among them to shirk that discipline requisite for their effectiveness as artistic critics, and makes them devolve upon sutlers and pioneers, the duties themselves ought to perform.

Mr. Burnet, however, catches by times a much clearer glimpse of Art's real excellence and end than his notion about a Greek demi-god *à la Gregson* betrays. He justly ridicules the infatuation so prevalent some years since to which Thom gave rise,—not the *Kentish*, but the *Scottish* miracle-worker—not an infatuation of ignorant fanatical hop-pickers, but of thorough-paced sightseers and fastidious townbred dilettanti—each in his or her opinion

The nose of *haut-goût* and the tip of taste.

Our author says—"Nor can we forget the lavish praise bestowed upon the figures of 'Tam o' Shanter and the Souter,' by Thom, from Burns' poem: from the prince to the peasant all classes were in raptures at the wonderful imitation of the worsted hose; to work stockings in wool was nothing, here were stockings worked in stone! The result is, however, a painful lesson to every one who attempts to take the citadel by storm, or who relies on the praise of ignorance; the pretenders to taste are now ashamed, and deny their patronage, and the sculptor has retired to that obscurity which ignorance invaded." A judicious critique: yet its pronouncer could not generalize his own principle, nor see that Theseus, the fac-simile of an English bruiser, would have been but another version of the wonderful *worsted hose!* to have been a boxer in flesh and blood was nothing, here would have been a boxer worked in stone!

Yes, there is a prodigious deal of enthusiasm extant among our countrymen and countrywomen, about many other things beside Oxford Tracts and Methodist Missions. By ill-luck most of it is wrong-headed enthusiasm—enthusiasm for the frivolous, the ephemeral, the pretty, and the petty, the common-place when servilely natural, the ideal when absurdly hyperbolic. This may, perhaps, be better than none,* but would there were a little more right-minded enthusiasm along with it! We have known persons who fell straight into the finest fits of ecstasy at seeing Herr Von Helldunkel's 'Last Judgment,' yet stood as cool as if they had been cut out of cucumber before Michaelangelo's! Some will rhapsodize the length of an Iliad about Mr. Such-a-one's "Addisonian style," yet detest Addison and all his works! or will dilate upon the "Miltonic beauties" in Mr. Prettyman's last new poem, yet feel none of those in Paradise Lost! Others will look daggers, poisoned daggers, if you question the sublime eloquence of the Rev. Mr. Cantwell's extempore prayer, while they drowse over the noblest Psalm with no more perception than a parish-clerk has that it contains aught beyond good Sunday reading! How many people (literary people) will eulogize a popular novelist as they should a Shakspeare only, and Shakspeare† as they should only a popular novelist! Delightful in truth to behold the radiant benevolence of those who hunt out shoemaker poets, and cherish aspiring stone-masons into sculptors—not because their *protégés* were obscure men of genius, but men of obscure genius,—not because they were real poets and sculptors who wanted patronage to show themselves such, but shoemakers and stone-masons whom patronage wanted to show *itself* such! Mr. Burnet, besides the "Thomists" abovesaid, specifies as an example of distempered popular taste, the much larger sect of wrongheaded enthusiasts that frequent our public galleries. Roubiliac's statue of Shakspeare, he says, and with lamentable truth, "has more admirers from its high finish and curious detail of stuffs" than Chantrey's Sir Joseph Banks, its near neighbour, at the British Museum. But exemplification might have gone a pace or two farther and fared better, for even Chantrey's Banks has more admirers from its plain, prosaic, true-to-a-pimple character, than the Theseus, its next-room neighbour. We have not a doubt—not the shadow, the dream of a shadow of a doubt—that English enthusiasm for Fine Art would prefer the full-length portrait of a master-manufacturer by Chantrey, to the Jupiter Olympius by Phidias himself! If Phidias, indeed, had sculptured, not the Parthenon Minerva, but the Velletri Minerva, the goddess of blacksmiths, she would find many sad good Christian adorers among us—they would kiss the hem of her leathern apron! Ay, or of the Turcoman god-Farrier's, were his image set up, like Nebuchadnezzar's, for national worship; they would bow down to the emblematic Horse-shoe, though they will not bend to the Cross. These are tropes we grant, but tropes are often but vehement expressions of deep-felt truths. Yet answer us: do not our compatriots in their hearts salute Mammon's hoof as reverently as ever they did the Pope's slipper, or as Romanists do St. Jupiter's brazen toe, transubstantiated into St. Peter's, at the Vatican? If yes, our most anti-Catholic countrymen have but changed one abject superstition for a worse. Much the Reformation, much Protestantism has improved them, if it has taught them to tell, instead of their beads, only their *pence*, with more devotion!

What better then should we expect among a people whose "thoughts are low," than Art on the same level, and critical literature half a head above that? In these days of promiscuous authorship and facile composition, when he who runs can write, almost every person thinks himself as well-fitted as his neighbour to discuss any given subject, and perhaps is. Yet, although we can scarce consider this an edition worthy of the Discourses, can we deny it worthy of the times and the prevailing taste? Broad-margined, hot-pressed paper, fine type, and picturesque illustrations, furnish out a very handsome quarto, alike creditable to the editor, printer, publisher, and public who patronize such merits. Had the originality of Mr. Burnet's Etching characterized his writing, we should have overlooked altogether his want of elegant style, nay, even of enlarged, exalted principles: many among his remarks on detail and mechanism appear judicious. It was not our design to glean a *spicilegium* of errors from his volume; we have taken a small handful for sample where we might have collected a sheaf. Let us add, likewise, that as Mr. Burnet has been the first to break the ice which covered the great deep of the Discourses, it is no wonder if he has fallen in and lost himself.

* It is far worse than affected enthusiasm, because its morbid ardour makes converts, and so spreads the contagion of corrupt taste.

† Most of his countrymen, we are convinced, read our "great national poet" after the same fashion that Sancho saw Dulcinea, by *hearsay:* they hear certain of his dramas at the theatre, and get a relish for them when spiced and sauced with the high-seasoning of stage-effect, scenery, machinery, decorations, and declamations. This is all, or almost all! George the Third confessed himself but a tepid admirer of Shakspeare, though a fervent applauder of O'Keefe; peradventure no few playgoers would admit they likewise preferred the farce-writer had they his Majesty's candour as well as his coarse taste.

OUR LIBRARY TABLE.

The Stage Coach; or, the Road of Life, by John Mills, Esq. 3 vols.—The author of this East London Decameron, more candid than the generality of his race, admits, in his preface, that the 'Old English Gentleman,' his former and first novel, was over-praised by the critics. We must not allow so good-tempered a preamble to tempt us into super-civility with regard to his second effort in fiction. Rating him by 'The Stage Coach,' Mr. Mills must take rank far below Dickens, or Hood or Hewlett; each of whom has hit off the fast-vanishing stage coachman, with far greater felicity than our author. Another club, too, by way of framework to a series of tales, is a cardinal mistake! Twice has the device been tried by "the only true and lawful Boz," and as often abandoned as unmanageable. Further, one or two of the tales introduced by the "chalked-off" coachman, are as sentimental as if the pale young gentleman in black, "who-sits-in-the-corner-and-is-with-the-greatest-difficulty-prevailed-upon," had sighed them out, instead of their being vented in the midst of fumes of Aldgate tobacco and purl. The hearse-driver's story of the medical student who unconsciously dug up his own mother, is too revolting to pass without reproof; while the tale of the impudent exploits of Mrs. Toddy, the dog-stealer, is but a maimed version of an anecdote told fifty times better elsewhere. The members of the club sing; but, for the greater

part, very melancholy ditties: nor are we sure how far their songs are original; one, 'There's a charm in spring,' being, if we recollect right, borrowed from 'The Village Coquettes' without acknowledgment. To end our notice with praise—the best story is the first, 'The Devil's Hunt'; and the whole work contains evidences of power and invention sufficient to make us warn Mr. Mills that unless his third work be far better than the second, no prefatory smile will hinder the critics from being after him "in full cry."

Extracts from the Municipal Records of the City of York, during the Reign of Edward IV., Edward V., and Richard III., by R. Davies.—These extracts, though they do not throw much additional light on the history of the times, and though some of them have been published before in the "Eboracum," will notwithstanding prove of interest to the antiquarian student. The appendix to the work contains a detailed account of the celebration of the festival of Corpus Christi at York.

Plays and Fugitive Pieces in Verse, by David Burn.

"Crush not the squash ere it becomes a pod."

We have had nothing in prose so Siddonian as this appeal of Mr. Burn to his critics, since the real

"Beef cannot be too salt for me, my lord,"

with which, if we may believe Scott, the one supreme Lady Macbeth answered the Provost of Edinburgh's table inquiry. But Mr. Burn's is altogether a solemn book; the farce and the tragedy it contains being wonderfully in the Crummles vein. By the way, did not that high-toned and heroic actor pass from America into Tasmania, whence these volumes emanate? Here, at all events, we have the dramatist after his own heart, who gives us an odd tragedy, called 'The Queen's Love,' founded on one of the stories in the 'Odd Volume';—and a 'Regulus,' in which Mr. Jacob Jones, author of 'The Cathedral Bell,' is honourably rivalled;—and a legend of "that terrestrial Paradise," Jersey, no less curiously wrought in fustian;—and 'Loreda,' an Italian romance, which might have been acted (managers have their lunes) had not 'The Recluse' been condemned, and the author's courage thereby damped;—and 'Our First Lieutenant,' a farce written to bring forward "a deserving young actress," now Mrs. Captain Barclay. To these are added some sentimental prose: and the author's solemn delight in his own works holds out from the first page, dedicating his miscellany to "dear Lady Franklin," to the last—a valedictory address, whence our motto is taken.

Leisure Hours, by F. C. Stewart.—The author takes a very favourable view of his own little volume, when he calls it "a thing of shreds and patches:" but with that description we will content ourselves—adding merely that the idlest man's most fallow time should be made to yield some better fruit than any that can deserve to be so characterized.

Exercises on Etymology, by W. Graham.—This volume, which forms one of Chambers's Educational Course, is a tolerably accurate account of the various sources from which the English language is derived. The derivations, however, are not unfrequently fanciful, and must appear more so to the reader who is unacquainted with Latin and Greek, and for whom the steps of derivation are not traced. The great defect in almost all etymological works is the want of some general laws to confine the erratic student within the bounds of probability, and this defect is not remedied in the manual before us.

Chemistry of the four ancient Elements, Fire, Air, Earth, and Water, by T. Griffiths.—This is a simple and practical exposition of the subject. The intention has been to avoid abstruse details, and supply useful and interesting information, and the end appears to have been attained, although the subject involves some of the most interesting portions of chemical science. The book will amuse as well as instruct.

The Dictionary of the Arts, Sciences, and Manufactures, by G. Francis.—A cheap, and therefore a useful publication, intended to lighten the difficulties of those who attend philosophical lectures and read scientific books, by explaining briefly the meaning of the terms in common use "in architecture, engineering, practical mechanics, manufacturing processes, the mathematics, the fine arts, and the experimental sciences." It is illustrated by 1,100 woodcuts.

List of New Books.—A Concise and Practical System of Stenography, by G. Bradley, 12mo. 3*s.* bds.—Panorama of the City of Chester, 2nd edit. with Illustrations and Introductory Essay, by John Trevor, Esq., 18mo. 2*s.* 6*d.* cl.—The Captive's Vow, or the Bashaw, a Moral Tale, by Charity Batchelor, fc. 8vo. 4*s.* cl.—Wanostrocht's Gil Blas, 6th edit. 12mo. 5*s.* roan.—Todd's Johnson's Dictionary, by T. Rees, new edit. 18mo. 2*s.* 6*d.* roan.—New Manual of Devotions, in three parts, new edit. 12mo. 4*s.* bd.—Jenks's Devotions, by Simeon, new edit. 12mo. 4*s.* 6*d.* roan, lettered.—The Age of Great Cities, by Robert Vaughan, 2nd edit. royal 12mo. 7*s.* 6*d.* cl.—Forbes's Travels through the Alps of Savoy, and other parts of the Pennine Chain, &c., imperial 8vo. 28*s.* cl.—Farnham's Travels, new edit. 12mo. 2*s.* 6*d.* cl.—Stoughton's Lectures on Tractarian Theology, fc. 8vo. 3*s.* cl.—The Cathedral, 4th edit. 12mo. 7*s.* 6*d.* cl.—Slade's (Rev. J.) Parochial Sermons, Vol. I., 4th edit. 12mo. 6*s.* bds.—Notes on the Ministry of Cardinal B. Pacca, 8vo. 10*s.* 6*d.* cl.—The Gospel Collated, showing at one view the concurrent Testimony of the Four Evangelists, by a Barrister, 8vo. 21*s.* cl.—Gibson's Etymological Geography, 12mo. 3*s.* 6*d.* bd.—The President's Daughter, including Nina, by Frederika Bremer, translated by Mary Howitt, 3 vols. post 8vo. 31*s.* 6*d.* bds.—The Banker's Wife, or Court and City, by Mrs. Gore, 3 vols. post 8vo. 31*s.* 6*d.* bds.—Rob Roy (Abbotsford Edition), imperial 8vo. 15*s.* cl.—Heart of Mid-Lothian (Abbotsford Edition) imperial 8vo. 15*s.* cl.—Scott's Life of Napoleon, Vol. V., 12mo. 5*s.* cl.—Richardson's Geology for Beginners, 2nd edit. 12mo. 10*s.* 6*d.* cl.—Latham's Elementary English Grammar, 12mo. 4*s.* 6*d.* cl.—A Memoir of the Life, Writings, and Mechanical Inventions of Dr. Cartwright, post 8vo. 10*s.* 6*d.* cl.—The Spas of Germany re-visited, by Dr. Granville, 8vo. 4*s.* 6*d.* cl.—The Spas of Germany, by Dr. Granville, new edit. 8vo. 12*s.* cl.—Treatise on the Ellipse, by the Duke of Somerset, 2nd edit. 12mo. 3*s.* cl.—Spellen's Vestry Clerk, and Parish Lawyer, 12mo. 3*s.* 6*d.* swd.

FOREIGN CORRESPONDENCE.

THE following are extracts from letters received from Dr. Lepsius:—

Pyramid of Mœris, June 20.

"We have now been settled for some weeks on the ruins of the labyrinth of Mœris, and I hasten to give you the first information as to the definite discovery of the site of the true labyrinth and pyramid, a discovery which has cost us but little trouble. It was impossible, even at the first hasty glance, to doubt that we saw the labyrinth before and beneath us. We were astonished that earlier travellers had scarcely mentioned these remains, when we saw the ruins of hundreds of still well defined chambers lying before us. It will surprise you when you see by the drawings of Herr Erbkam (who has undertaken and executed his task with the greatest industry and talent) how much of these remarkable buildings still exists. No previous descriptions of them, known to me, not even those of Jomard and Coutelle, agree with the localities as we found them; and my dependence on the representations of Perring, the able architect of Col. Wyse, has been much diminished by the inaccuracy of his sketches of these ruins, the best preserved portions of which he has left out, proving that he did not recognize the regular boundary of the whole building. The main result of our investigation is, however, the finding on many of the pillars and architraves of the hall, the name of the true Mœris, who built the labyrinth for his palace, and the pyramid for his tomb. I send with this letter a treatise on the building of the pyramid, written by me while recovering in Cairo from a slight illness, which I wish to present to the Academy of Sciences in token of respect. In January I sent a drawing of the pyramid of Cheops, and several representations of tombs in the pyramids. I have also sent to Hamburg, *viâ* England, a chest containing an ethnographical and geological collection from the White River, and two others containing Nile fishes for the anatomical museum. I have also here a small collection of stones found in the pyramids, and specimens of the innumerable sorts of vessels the fragments of which have been used for the filling up of the walls and roofs of the chambers of the labyrinth. We had before remarked this mixture of stone, gravel and potsherds in the ruins of Memphis, whose palaces and temples very much resemble the monuments we are now examining. Our plan of those ruins, prepared by Erbkam, is the first that gives a real idea of the vast proportions of those glorious buildings. We live here in great simplicity, enjoy very good health, and bear the various plagues of Egypt with uninterrupted patience and good humour."

In another letter of the Professor's, written on the same day, we find some additional information:—

"The pyramid of Mœris is the latest of all the pyramids of the Pharaohs. King Mœris reigned from 2194 to 2151, before our era, and was the last king of the old kingdom of Egypt before its conquest by Hyksos. Both the labyrinth and the lake prove his power, his love of magnificence, and his interest in the welfare of his people. On our arrival at Fayum we found that a most interesting paper had just been published, by a French architect, Linant, in the service of the Pasha, announcing his discovery of the site of the lake Mœris. He ascertained that scarcely any trace of it existed, and that only one portion of the gigantic dam which confined the waters still remained to the S.E. of Fayum. In the whole province there was but one other lake, that of Birket el Kerun, situated to the N.W., and this failed in several points in answering the conditions required for lake Mœris; being neither artificial, nor washing the city of Crocodilopolis nor the labyrinth, nor, in fine, answering to the great reputation and purpose of the real lake. This purpose was to receive the waters of the Nile at its overflow, and employ them during the dry season for the supply of the capital, Memphis, and the plains of the Delta. The lake discovered by Linant is of nearly equal circumference and depth with that of Birket el Kerun, and fulfils all these conditions. Every day we look from the pyramid, not as Herodotus did over the lake, but over the black soil on which lay the waters of lake Mœris, to the city of Fayum, which is built partly on the ruins of Crocodilopolis. If it were difficult to make out in Birket el Kerun the lake of Mœris, it assuredly was not an easier matter to overlook the real pyramid, which stands just as it was described of old with regard to the lake, and the city of Crocodilopolis. At the end of the vast plain of ruins lies the pyramid in which Mœris was buried, and to the south the village mentioned by Strabo, now in ruins, and separated from the labyrinth by a watercourse of later date. With regard to the ruins themselves, I can scarcely believe my eyes when I read the accounts of previous travellers. Where they saw formless hillocks and a few walls, we found at once several hundred chambers, some of them with roofs, corridors, and remains of columns. The rooms are so irregular and of such various sizes, that no one could have found their way, without a guide, through this mass of building, above two hundred feet broad. Herodotus describes three thousand apartments above and below the ground, an account which the remains lead me to believe not exaggerated. The forms of the most important part of the palace are described by Herodotus as consisting of twelve halls, that is, of twelve open courts surrounded by covered colonnades. This palace was surrounded by labyrinthine buildings on three sides, and now forms a four-cornered space covered with low hillocks, and intersected by a watercourse. Here our establishment of twenty-four men, three asses, two camels, rams, geese and fowls, five tents and several huts and stables built of the ruins of the pyramid, recals the old village of Strabo which lay on the same level with the pyramid. Around us are scattered huge blocks of granite, and a marble-like hard calcareous stone, the remains of the old pillars and architraves of the courts, which are of interest as offering in several cases the names of the builder, Mœris, and his sister who succeeded him. On the top of the pyramid waves the Prussian eagle. I am employing one hundred workmen in digging into the chambers, and latterly in searching for the entrance into the pyramid. We shall only remain here till Erbkam has completed his sketches. We shall then proceed rapidly through central Egypt to Thebes. Our visit to Meroe will be deferred till the April of next year.

OUR WEEKLY GOSSIP.

IN the present scantiness of town-talk, a little country-gossip may be acceptable: and when a Day's Excursion has proved to be neither profitable nor pleasant, a word of warning may be serviceable to those who, like ourselves, have few days to throw away. We shall, therefore, profit by the observations of a friend, who last week visited Waltham Abbey. Among the noticeable things he saw there, perhaps the subjoined few will interest our readers, though even these will scarcely prove of the class which sentimentalists entitle "interesting":—"This time-honoured, or dishonoured town, although but a dozen miles from London, and easily accessible from the North-Eastern railroad, I must pronounce about as unattractive a rendezvous for lovers of sub-

urban excursions, or gasping citizens who wish to 'breathe fresh air,' as one could see of a long summer's day. Its atmosphere is redolent of mud, and 'the fat weeds that rot themselves to death' on the banks of the Lethean Lea, whose sluggish waters encircle it,—the savoriest odour perceptible being exhaled by the eels, all alive, fried in their native ooze beneath the noontide sun. Less perfume, however, Sabean or other, than might be apprehended, arises from the open sewers and unswept kennels, bountiful Nature having thrown a green mantle over them, which at once represses their too-powerful aroma, and furnished with its mossy fringe a retreat for those elegant reptiles that enliven the borders. Here and there a house—not a single street—exhibits attention to cleanliness or comfort—one or two picturesque points might be found, or fancied, but in general the place wears a look of decay, but decay without its venerable character, and of extreme irregularity without the charm of variety. Everything has a desolate cast at Waltham, yet nothing of sweet and solemn retirement; I would not take a gift of it, were sac, soc, toll and team granted me to boot, if the tenure compelled residence! Perfect harmony, indeed, prevails throughout it. The condition of the Abbey Church is quite akin to that of the town; or, rather, though it has had some care bestowed on it, the care is still more discreditable than neglect, as its noble Norman interior has been *whitewashed* so often for neatness sake, that all its beautiful details are covered up completely, which grime, the growth of ages, could not have done with half such offensive effect. Outside, also, the nastiness suffered to accumulate along the basement, is less odious than the patch-and-botch work repairs above it, because an observer can less inconveniently keep his nostrils shut than his eyes. The living may be considered a kind of *vicarious vicarage*, or perpetual cure, equivalent to a perpetual sinecure, the vicar being a perpetual absentee at Oxford, while his substitute at Waltham has some thousand souls under his guidance, but not a single parish trowel or besom. The churchwardens are the real patrons of whitewash within, and sordid plaster work without, and repulsiveness everywhere, like their brotherhood generally, over the whole land. I shall not mention names, however, as the chief barbarisms were committed by past churchwardens, and I hope the present functionaries will, after my preceding hints, find means to abate the removable nuisances which render this grand old church an abomination rather than an attraction. Let the burghers of Waltham take example from Cheshunt, scarce three bowshots distant, but half the globe away in refinement: its little church, with few architectural merits—indeed, little beyond neatness and a splendid view from the tower to boast of—had a charm for me that King Harold's proud mausoleum wants, with all its antiquarian riches. I spent the night and my pence at Cheshunt—perhaps the Walthamites will listen to that fact! No syllogism like an *argumentum ad crumenam* to convince such people; their brain is in their pockets!"

Apropos of these remarks upon Waltham Abbey, let us cite from a long letter with which Professor Hosking has favoured us, a brief passage, being all that concerns the subject:—

> The churchwardens and their fellow parishioners of St. Mary Redcliff deserve anything but the sneer cast at them in the *Athenæum* of last Saturday; and, moreover, the information with which we have been furnished regarding Hogarth's pictures in their church, is very far from giving a correct view of the case. Your informant has compared the circumstance that *the Vestry of the parish paid to Hogarth himself, in* 1757, 500 *guineas for the pictures* which they had commissioned, with the recommendation, which appears in the published abstracts of the Report by Mr. Britton and myself upon a survey of the church last year with reference to an intended complete restoration of that beautiful structure, that the pictures should be removed from their truly "obscure position." So far, however, are the churchwardens from having offered the pictures for sale, and the parishioners from desiring to get rid of them, that the further advice given by Mr. Britton and myself, that the pictures should be sold, in aid of the funds for restoring the church, was not adopted by the Vestry because of the strong feeling existing in the parish with regard to them.
>
> Notwithstanding all our respect for the Professor, we beg leave to say that our informant, whom *he* "casts a sneer at," is quite as competent a witness, full as likely both to take and give "correct views of the case," as himself. He did not, and from his position could not, confound the two points above-mentioned; but Mr. Hosking's own epistle betrays a bias towards confusion and incorrectness that renders us somewhat sceptical in receiving his counter-evidence. We never said the churchwardens had "offered the pictures for sale," or the parishioners desired "to get rid of them:" he precisely inverts our application of these expressions, and thus perverts their meaning. Besides, had he judged from our context, instead of a particular sentence, he would have found the sneer which discomposes his nerves was an ironical glance at parish authorities in the gross, and, even rather than at them, at the whole nation who pretend to idolize Hogarth, yet remain unacquainted with his works. But there are no persons so apt to overlook facts as your matter-of-fact people; they hold fast by the letter and lose the spirit, in which is the life of the truth. Cannot Mr. Hosking distinguish a general sarcasm from a direct accusation: perhaps he thinks we meant likewise to impugn the clergyman's *virtù*—or the clerk's—when we said the only individuals who felt Hogarth's altar-piece were those who dusted it? Are not churchwardens notorious throughout the three kingdoms for their love of whitewash, and for beautifying the complexion of their churches with this excellent cosmetic, at the sacrifice of every old-fashioned ornament? Are not parish folk renowned to the antipodes for their ignorance of Fine Art and knowledge of the pence-table? Such was the comprehensive scope we had before our mind's eye when we took St. Mary Redcliff as our observatory. However, Mr. Hosking approves himself a grateful partizan of his employers, if no very judicious one: he has placed them in this dilemma—they must either keep their Hogarth, to maintain their characters, or sell it, and thus confirm our informant's report! He admits, too, that the question of sale *did* engage the vestry, and his letter elsewhere announces his hope that the parishioners will make "Hogarth's pictures refund the money expended upon them, with compound interest." These items, we think, rather countenance the rumour we published, than disprove it; and why is Mr. Hosking so vexed with us for saying we heard the parishioners had done what he himself says they ought to do—for anticipating that which he expects from them, the improvement of their church and their church-fund by the sale of their inappropriate picture?

If we are to believe the reports of the daily papers, the long-talked of embankment of the Thames from Whitehall to Blackfriars Bridge, is at length about to be undertaken. Of the utility—we might say of the necessity—of some new line of communication from East to West, in this enormous and daily growing city,—of the beauty of such a terraced walk as is proposed, and of its advantages as a healthy promenade, there can be no question; but there are so many opposing interests, that we doubt if any ministry will undertake to battle with them, unless supported a little more heartily than heretofore by the public.

On Friday the 18th instant, the first stone of the Queen's College of Medicine at Birmingham, was laid by the Principal, Dr. Johnstone, assisted by Mr. G. Drury, the architect. The visitor of the College is Dr. Warneford, of whose beneficence it is another monument.

The cabinet of coins of the Asiatic Museum at St. Petersburg has recently been enriched by two valuable presents; one from the Minister of Finance, consisting of a number of Persian, Turkish, and Indian coins, chiefly of the early part of last century; the other from Lieut.-Col. Butenjen, of a collection of coins chiefly Mohammedan, from the countries on the Oxus, Jaxartes, and Indus. Many of these date as far back as the eighth century, and among them are several unique specimens.

More than one correspondent has inquired where and how they are to get a sight of the proposed façade of the British Museum. We regret to say, we cannot give them any information on the subject. It is difficult to account for the silence maintained respecting a work which must very shortly be commenced, and which ought to make that edifice one of the ornaments of the metropolis. The opportunity is as favourable as the occasion is important and noble; and yet, though the preparations have been actually commenced, no one seems either to know or to care what the façade is to be. Surely this is not altogether right and proper; and it contrasts, besides, very singularly with the interest the public is now presumed—even expected—to take in all matters connected with the fine arts and their advancement. Formerly, it is true, the public were supposed to have neither opinion nor voice on such occasions, yet formerly is no precedent for at present, when some show, at least, of deference is paid to public opinion. It must be admitted that the British Museum is not a case of competition, and so far there is nothing of that stir and excitement in regard to it, which there would have been under other circumstances; but surely no one will say that because the occasion affords no factitious interest of that kind, it is of no moment what is made of the building. The exterior of a great national museum ought to announce itself by studied beauty of design and refined taste, and should be a finished work of art. Unless, therefore, care be taken to render the façade in some degree entitled to such character, instead of being at all better, we are likely to be eventually less satisfied with it than with the present antiquated and sulky-looking Montague House. That was not erected for the purpose of a gallery of art, nor at a time when anything beyond the mere name was known in this country of Grecian Architecture. Accordingly, in that we could very well tolerate a great deal which, under altered circumstances, would be offensive and altogether inexcusable. Nor will it be enough that the new façade is an improvement as compared with the present building, should it not be found to have a high degree of positive merit also, without which it will seem little better than another valuable opportunity flung away. Our doubts and misgivings may be altogether groundless, but then why should there be any room for doubt at all?—why any sort of concealment? Whatever it may be as a production of architecture, the new façade of the Museum will be a very extensive one (nearly 800 feet in length, including the wings), and also a very conspicuous one, for it will be an object of mark to all strangers and foreigners who visit the metropolis; nevertheless, no assurance has been given us, nor has any one thought it worth while to inquire what it will really be. Of course, there will in time be an end to all concealment, all mystery, all doubts, surmises, and conjectures,—yet, what if the most unfavourable surmises should then be confirmed? As long as we can, we are willing to hope for the best, but as we have nothing on which to found such hope, we must also be prepared for the worst. We think, however, that it is now high time that the public should be a little enlightened on the subject, and not left to find out that a noble opportunity has been lost, when it shall have become altogether too late to think of retrieving it.

Several interesting discoveries have been made in the vicinity of Algiers. On the site of the old Julia Cæsarea a fine statue of white marble has been found, representing a youth taking a thorn out of his foot: and near it a monument of a knight piercing a soldier with his lance, and over it an inscription, in tolerable preservation.

The 'Medea' of Euripides, recently set to music by Taubert, was performed for the first time on the 7th inst., before a select audience, in the theatre of the palace at Potsdam. It was afterwards announced that it would be performed publicly at the Opera House at Berlin; but this, we regret to learn, is impossible, that House having been burned to the ground on the 19th inst., after having stood for exactly a century.

We mentioned, some time ago, that the medical commission sent into Egypt by the Russian government, to make experiments on the subject of plague, and the means of arresting the *virus*, had reported the complete success of caloric as an agent of purification. A letter from Cairo, published in the *Times*, gives some particulars of the proceedings from which this conclusion was obtained. The Commission, it seems, have come to the unanimous opinion that articles of any sort, after having been subjected to a temperature of from 50° to 60° of Reaumur, cannot communicate the plague. The Commissioners collected a large quantity of garments, of sundry tissues, and had them thoroughly impregnated with the supposed virus of the plague. These were placed in a chamber heated by a stove to the temperature of from 50° to 60° (Reaumur), and subjected to the action of the heat for forty-eight hours.

Sixty-six persons, of all ages and temperaments, including Turks, Egyptians, Syrians, and Negroes, were clad in the garments, and put into the closest contact with the articles which had been thus treated, and the result has been, that not one single person of the sixty-six has been attacked by plague, or his health affected in the slightest degree, by the experiments to which he has been subjected. No doubt (shrewdly suggests the letter from which we have made the above extracts,) it might have been well if the Commissioners had also ascertained whether the plague *could* be communicated by articles *not* having been subjected to this high temperature.

At the meeting of the Geological Section of the British Association on Saturday, Mr. Binney announced the discovery of an upright tree, nine feet high, in the coal strata at St. Helen's, near Liverpool, identical in species with some of the trees (Sigillariæ?) at Dixonfold and Manchester; the roots were remaining to the length of eight feet, these roots being undoubted Stigmariæ (the ordinary *S. ficoides*), with their radicles or "leaves" attached, and spreading out in all directions to the distance of two or three feet.

VENICE.—MORNING and EVENING EXHIBITION.—Under the patronage of the Emperor and Empress of Austria, the Kings and Queens of Prussia, Bavaria, and Holland (whose signatures may be seen in the Royal Album, in the Exhibition Room).—The Grand MODEL of the CITY of VENICE (with brilliant effect of sunshine, produced by artificial light), representing every object in the City.—Open to the public, at the Egyptian Hall, Piccadilly, from eleven in the Morning till Ten in the Evening.—Admission, 1*s*.

DIORAMA, REGENT'S PARK.

NOW OPEN, with a NEW EXHIBITION, representing the CATHEDRAL of NOTRE DAME at Paris, with effects of Sunset and Moonlight, painted by M. Renoux, and the BASILICA of ST. PAUL, near Rome, before and after its destruction by Fire, painted by M. Bouton. Open from Ten till Six.—N.B. A GRAND MACHINE ORGAN has been constructed expressly for this Exhibition, by Messrs. Gray and Davison, of the New-road, and will perform the Gloria, from Haydn's Service, No. 1, during the midnight effect of the Cathedral of Notre Dame.

THE CHINESE COLLECTION, Hyde Park-corner.—This UNIQUE COLLECTION consists of objects *exclusively Chinese*, and surpasses in extent and grandeur any similar display in the known world. The SPACIOUS SALOON is 225 feet in length, and is crowded with rare and interesting specimens of virtù. The Collection embraces upwards of SIXTY FIGURES AS LARGE AS LIFE, portraits from nature, appropriately attired in their native costume, from the MANDARIN of the highest rank to the wandering Mendicant; also MANY THOUSAND SPECIMENS in Natural History and Miscellaneous Curiosities, the whole illustrating the appearance, manners, customs, and social life of more than THREE HUNDRED MILLION CHINESE.—Open from 10 till 10.—Admittance 2*s*. 6*d*. Children under 12 years, 1*s*.

MUSIC AND THE DRAMA

The Haymarket again acknowledges the tasteful sway of the whilom master of the Olympic revels, who has animated the porcelain Corydons and Phyllises of our grandmother's mantel-piece, and grouped them on the stage in a *tableau vivant* worthy of Watteau; transporting the Bucolic masquerading of Versailles in the days of the Grand Monarque, to the lawn of the Duke of Queensberry's villa on the banks of the Thames, to form the opening scene of the new comic piece, 'Who's your Friend? or the Queensberry Fête.' The amusement is created by the introduction of a veritable rustic among the bevy of titled milkmaids and courtly swains, who are made to believe the "Zummersetshire" lad to be a Russian nobleman playing the part; and, to heighten the fun, the countryman is told that the word "Baron" is a challenge for a kiss. The sport that ensues may be readily imagined: the Cymon flutters stately dowagers and delicate maids of honour, and carries on the game of "kiss who kiss can" with ardour so genuine, that his rude assaults are relished even when repulsed. The imbroglio leads to an explanation, but not before some scenes of flirtation and retaliation, of a very diverting kind, have exhibited the frailty of a censorious dame, and the innocence of a calumniated damsel. Charles Mathews, as the countryman, has rarely appeared to better advantage; his Somersetshire dialect was genuine, and had evidently been carefully studied. He was hardly clownish enough, yet, had he been more so, the improbability of the incident would have been perhaps too glaring. Madame Vestris is a captivating dairy-maid of distinction, followed by a Negro boy in a silver turban, holding over her a feather parasol, and a footman in livery carrying her lapdog and milk-pail: and Mrs. Glover and Strickland are irresistibly droll as a coquettish Chloe and a dunderheaded Lubin. The fun is kept up throughout with spirit, by the aid of smart dialogue and clever situations; and though the piece is evidently from the French, the translator, whoever he is, deserves praise for the skill with which he has adapted it to our stage.

THIRTEENTH MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

CORK, AUGUST 16.

[*From our own Correspondents.*]

The General Committee assembled on Wednesday at three o'clock, and the chair was taken by the Earl of Rosse. The minutes of the last Meeting were read and confirmed.

Col. Sabine then read the Report of the proceedings of the Council during the past year, from which it appeared that in compliance with a resolution passed at a meeting of the General Committee, held at Manchester, June 29, 1842, application had been made to Government to undertake the publication of the catalogue of stars in the Histoire Céleste of Lalande and of Lacaille's Catalogue of the Stars in the Southern hemisphere, which have been reduced and prepared for publication at the expense of the British Association, and that Her Majesty's government had given the necessary directions for issuing 1,000*l*. for the completion of the work in question, at the same time stating "that the compliance with this application must not be considered as authorizing the expectation of pecuniary assistance in cases not in the first instance submitted to and approved by my lords." Respecting the arrangements for the care of the Kew Observatory, the Report stated that Mr. Cripps, its former curator, retains his apartments, without salary, undertaking to keep the house aired and the lower parts clean, receiving an allowance for coals, candles, &c. not exceeding 15*l*. per annum; and that Mr. Galloway has been engaged at a salary of 27*l*. 7*s*. 6*d*. per annum, with apartments, coals, candles, &c., to take charge of the apartments above the basement story, and of the property of the Association, and to render general assistance to members prosecuting researches in the Observatory. A few necessary repairs have been made, and, in addition to the apartments for Mr. Galloway, a sleeping-room has been provided for any member whose researches may require him to spend a night in the Observatory. The necessary instruments have been purchased, and a regular meteorological register was commenced by Mr. Galloway, under the superintendence of Prof. Wheatstone, in February last. For these various purposes the sum of 133*l*. 4*s*. 7*d*. has been expended in the present year. Prof. Wheatstone will report on the Self-registering Meteorological Apparatus, for which a grant of 50*l*. was made at Manchester, which has been completed and placed in the Observatory; he will also report on the Electrical Apparatus, the expense of which has been defrayed by private subscriptions. The Council have to report the establishment of the following registries, viz.—1. An ordinary meteorological record, with standard instruments; 2. A meteorological record with self-registering instruments on a new construction; 3. A record of the electrical state of the atmosphere. It is proposed to add a register of the comparative amount of rain at different heights above the surface, and of the temperatures beneath it, for both which purposes the locality appears particularly well suited.

The Council have added the names of M. Bessel, of Königsberg, M. Jacobi, of Königsberg, Dr. Adolphe Erman, of Berlin, M. Paul Frisciani, Astronomer at Milan, and Prof. Braschman, of Moscow, to the list of Corresponding Members of the Association.

The rule adopted at Manchester for issuing tickets at 1*l*. each, admitting Associate Members to sectional meetings only, was revived and extended to the sons of members under age.

The officers of Sections were then appointed, and directed to assemble in their several committee rooms at the rising of the General Committee, for the purpose of electing committees, and arranging the business of the ensuing day.

The following were chosen Members of the Committee of Recommendations:—

Sec. A. Professors Lloyd and M'Cullagh.—Sec. B. Marquis of Northampton, Professors Apjohn and Kane.—Sec. C. Richard Griffith, Esq., Charles Lyell, Esq.—Sec. D. H. E. Strickland, Esq., W. Thompson, Esq.—Sec. E. Sir James Pitcairn, M.D.—Sec. F. Sir C. Lemon, Bart., James Heywood, Esq.—Sec. G. Professor Mac Neill.

The General Committee then adjourned to Monday at three o'clock.

THURSDAY, AUGUST 17.

SECTION A.—MATHEMATICAL AND PHYSICAL SCIENCE.

President—Prof. MacCullagh.
Vice-Presidents—Prof. Lloyd, The Very Rev. the Dean of Ely, Mr. W. S. Harris.
Secretaries—Prof. Stevelly, Mr. J. Nott.
Committee—Lord Adare, Sir W. Hamilton, Rev. T. R. Robinson, Col. Sabine, R.A., Rev. Dr. Scoresby, Dr. Langberg, Capt. Larcom, Mr. J. S. Russell, Dr. Scott, Mr. E. Leahy, Dr. Green, Mr. E. Hodgkinson.

The President, on taking the chair, remarked on the connexion between pure mathematics and the physical sciences, and the reasons which had induced the Association to class them together as objects of the same Section. The geometer may pursue his speculations to an indefinite extent, without any reference to the external world; but he finds the best and most useful applications of them in the field of physical research and in the study of those material laws, the knowledge of which is an essential element in the progress of the human race. Independently of their utility, the mind feels a natural—almost an irresistible tendency to such applications. Even the great geometer of antiquity (Archimedes), who thought his science degraded the moment it became conversant about material objects, and was made subservient to merely useful purposes, was yet compelled, by the strong impulse of a natural curiosity, to deviate from the proud but narrow rule which he had prescribed to himself; and then the same splendid genius which had enabled him to find the proportions of the cylinder and sphere, and to approximate to some of the most refined methods of the modern geometry, led him to lay the foundation of *Rational Mechanics*—of that science which has since grown to such a wonderful extent, and has contributed so powerfully to the advancement of civilization. The mathematician instinctively feels that the laws of the visible universe are written in the diagrams of geometry and in the symbols of analysis; and this remarkable correspondence, established by the will of the Creator, between the mathematical conceptions of the human mind and the phenomena of the external world, was perceived by the philosophers of remote antiquity as clearly, and recognized as fully, as it is by us at the present day. It was the perception of this truth which caused Pythagoras to say that *numbers* are the principles of all things, and Plato to affirm that *geometry* is employed in the construction of the world. So great, indeed, was the predilection of Plato for geometry, that he required a previous acquaintance with it from all those who wished to become students of his philosophy; but while we agree with him as to the great importance of that science, more especially as an introduction to the study of Physics, we shall not follow his example so far as to inscribe over the door of our Section Room—"Let no one, who is not versed in geometry, enter here:"—for then we should exclude that large and important class of physical inquirers, whose object is merely the discovery of new facts, and of elementary laws, which are the expressions of such facts. For, in this way, much may be done, and much has been done, by men slightly, or not at all, acquainted with mathematics: in which category will be found some of the most eminent names of modern science. But beyond such elementary laws, it is impossible to proceed, (as many an inventive mind has found when it was too late) without the help of Mathematical Science, which alone is competent to grasp the higher generalizations, and to discover those remoter laws which link together the more complicated classes of phenomena, and enable us to compute them in all possible cases. The President concluded by stating that, at the request of the Committee, the Rev. Dr. Robinson would read Mr. Baily's Report on the British Association Catalogue of Stars. The Report in question stated that the reductions are now finished, and recommended that some addition should be made to the former grants to meet some extra expenses.

Dr. Robinson then presented a Report from the Committee appointed to prepare the British Association Catalogue of Stars; the reduction was complete; the sum of 550*l*. had been voted for its publication, and the objects of the Report were to require a decision as to the number of copies which should be printed, and an additional grant to publish the necessary explanation of the catalogue. As many of those present might not be acquainted with the accounts of this catalogue given at former meetings, he would trespass on the indulgence of the President for a few

minutes, to explain its value. Among the heavenly bodies, the stars were generally considered as motionless, and were used as points of comparison for their more erratic companions. In this respect, an accurate determination of their places is of high importance; but it becomes still more interesting from the fact that we now know many of them to be in motion, so that it is difficult to find one absolutely fixed, and the research of their proper motions becomes matter of great interest. This is effected by comparing their places observed now, with those accurately determined at a former epoch. Now to do this is not so simple as might at first sight appear. When the observation is actually made, the least part of the work is done. In the first place, we do not see the star in its true place; the motion of light makes it to be observed in advance of that, as the earth moves; secondly, it is referred to the pole and equinox: these points are not fixed in space; the one nods by the action of the sun and moon, the other moves with irregular precessions by the same force, and that of some of the planets. The observed place must therefore be corrected for aberration, nutations, &c. before it is of any use, and the mean of several such mean places, gives the result which we want. Now all this is very troublesome, and was often loosely performed, till Mr. Baily, whose Report has just been read, published the Catalogue called by the name of the Astronomical Society. That, which contained about 2,800 stars, has changed the history of Stellar Astronomy. Formerly from 30 to 40 stars, called standard, were observed, and the rest overlooked; so that in an emergency of a comet, or an occultation, there was often no reference possible, and direct observations of the individual object were requisite. In the eighteen years since it was published, he believed all its stars were very well determined. Its great advantage was, the system of logarithms computed for each star, which gave, with extreme facility, the corrections above described. But their numbers change with the changes of the stars' places, so that already they require an alteration. The advantages of this work were such, that the Association thought no more important service could be rendered to Astronomy than the extension of Mr. Baily's catalogue. It now contains nearly 10,000 stars, and the secular changes of the constants are given with them. Besides, in the places of the stars there is an important improvement; the places in the former catalogue were derived from a comparison of those given by Bradley for 1745, and Piazzi for 1800: whatever error was in either of these, was multiplied by the mode of computation when brought up to 1830; but this fault was, in the present instance, corrected. On the whole, he thought it would be one of the most creditable works of the Association, whose name it was to bear, and without whose aid it would not have been executed. He could speak feelingly of the overwhelming labour which it saved the astronomer, and was confident that all of them, foreign as well as domestic, would receive it with gratitude.

A communication from Prof. POWELL 'On Elliptic Polarization of Light reflected from various substances,' was then read by Prof. Lloyd. In a communication to the Association, at the Manchester Meeting, the author stated, among other results connected with this subject, that he had observed the phenomena of elliptic polarization in polarized light reflected from several mineral substances, in which it had not been (as far as he was aware) hitherto noticed. This inquiry bears upon the general question, to what substances is the property of converting plane into elliptic vibrations in the reflected light, confined? As far as observation has yet gone, it seems restricted, in general, to *metallic* substances, whether pure or compound; but to this there seem to be some exceptions, and it remains to be determined what *proportion* of metal, in a compound, is necessary to produce the result. As these questions will require an extensive range of observations for even a limited solution, the author is anxious to lay before the Association a list of all the substances he has examined; in the hope that others will be added to their number, whether by the independent experiments of those who may have access to such specimens, or by their favouring the author with the loan of such substances for examination. [This communication was accompanied by a list of twenty-three substances examined by the author, in sixteen of which elliptic polarization was detected.]

Prof. LLOYD then gave a brief account of some investigations in which he had been recently engaged, with the hope of explaining theoretically the phenomena of metallic reflexion. The physical hypothesis from which he sets out is, that the elasticity of the ether (which is usually assumed to change abruptly at the confines of transparent media,) varies *gradually* at the surface of a metal, so as to constitute, in fact, an infinite series of thin plates of infinitesimal thickness. In such a medium, it is natural to suppose that there will be an infinite series of infinitesimal vibrations, reflected at every point in the course of the ray, the sum of which will constitute the resultant vibration. On pursuing the inquiry, however, the author found reason to conclude that there could be no sensible intensity in the reflected light without a sudden change in the elasticity of the medium; and he was accordingly driven to combine this hypothesis with that already referred to, the ether varying continuously up to a certain plane, at which an abrupt change took place. On this principle he has obtained expressions for the magnitudes of the reflected vibrations corresponding with those of Fresnel, the *two* angles which enter the formulæ being connected with the original angle of incidence by the known law of the sines by means of two constants. These expressions seem to explain, generally at least, the variations in the intensity of the light reflected from metals; but it remains to account for the difference of phase depending on the plane of polarization. The author hoped that he would be excused by the Section in laying before it an outline of a theory still incomplete. The problem, however, is one encompassed with difficulties; and any attempt, however imperfect, to obtain its solution may serve to direct further investigation.—This communication gave rise to an animated conversation, in which the President, Prof. M'Cullagh, and Sir W. Hamilton, took part.

The PRESIDENT, at the request of Prof. Lloyd, then alluded briefly to some recent researches of his own on the same subject. He had endeavoured to connect the laws of metallic with those of crystalline reflexion, by a *mathematical* generalization, which brought out the empirical laws of the phenomena; but he did not give the particulars of his investigation, as it had not proved satisfactory to his own mind. The method of Prof. Lloyd, on the contrary, had the merit of proceeding on a *physical* hypothesis; and his results were certainly deserving of great attention, as the problem was one of the most difficult that could be proposed in the present state of science, and the cause of the peculiar action of metallic bodies upon light seemed to be involved in mystery.

Prof. KANE proceeded to read a paper by Prof. Draper, of New York, 'On a Change produced by Exposure to the Beams of the Sun, in the Properties of an Elementary Substance.'—He preliminarily described the general properties of the solar beam as acting on chemical substances, and pointed out the brilliant success with which the experiments of Daguerre and Niepce, of Herschel, Talbot, and Hunt, had been crowned. He reminded the Section, that in analyzing the solar beam, all parts of it were not found equally active in producing chemical effects; and that, in fact, the conclusion was now very generally admitted, that in the solar beam there are three distinct sets of rays:—those possessing heating properties, which are the calorific rays; those producing the sensation of light—the luminous rays; and those which effect chemical changes, which Dr. Draper proposes to call the Tithonic rays; for he, adopting the idea of peculiar matters of light and heat, considers that the chemical effects are produced by a peculiar material agent, which he terms Tithonicity. Dr. Kane then proceeded to read Prof. Draper's paper itself, which commenced with announcing the principle that "Chlorine gas, which has been exposed to the daylight or to sunshine, possesses qualities which are not possessed by chlorine made and kept in the dark. It acquires from that exposure the property of speedily uniting with hydrogen gas. This new property of the chlorine arises from its having absorbed tithonic rays, corresponding in refrangibility to the indigo." The property thus acquired is not transient, like heat, but permanent. A certain portion of the tithonic rays is absorbed, and becomes latent, before any visible effects ensues. Light, in producing a chemical effect, undergoes a change as well as the substance on which it acts: it becomes detithonized. The chemical force of the indigo ray is to that of the red, as 66.6 to 1. The author remarked, that we are still imperfectly acquainted with the constitution of elementary bodies, inasmuch as we know, in general, only those properties which they possess after having been subjected to the influence of light.

Prof. STEVELLY inquired whether the other of the two gases upon which Prof. Draper had experimented, the hydrogen gas, had been found to possess the same property of acquiring this permanent power of combining by exposure to solar light.—Prof. KANE replied that the inquiry was so obvious to a person engaged in the research, that he inferred, from the total silence of Prof. Draper upon the subject, that hydrogen did not possess the same property.—The Rev. Dr. ROBINSON begged leave to state, what seemed to him confirmatory of Dr. Draper's views as to the distinction between the *Tithonic* and luminous rays. He was induced by some newspaper statements to think that the Daguerréotype might give very exact representations of the inequalities of the lunar surface. He therefore procured the apparatus, and, by previous practice, acquired the requisite skill. A plate prepared by Claudet's process was then exposed, in the place of the image of a Cassegrainian reflector, of 15 inches aperture. The intensity of the light was such that when the image of the crater Copernicus, one of the brightest in the moon, came into the field of view, it dazzled the eye; but though the telescope was carried by a clock-movement of extreme precision, after an exposure of half an hour, there was shown after mercurializing, but a faint and indistinct image, or rather trace. Another plate, similarly prepared, gave, in half a minute, on a cloudy day, a most perfect picture of his house, in which minute details were shown by the microscope. He therefore inferred, that as the heat accompanying the solar rays was not found in the light of the moon, being probably absorbed there, so these other rays were also absorbed, though possibly in a less degree. The apparent complementary relation between the colour of chlorine and that of the ray which seemed to have the highest power, was curious, and excited a wish to know if anything similar occurred in respect of the vapour of iodine, or if this power was confined to the blue end of the spectrum. The experiment would not be easy, but Dr. Kane could probably manage it.—Prof. KANE promised to try the experiment suggested by Dr. Robinson, upon his return to his laboratory. He also remarked, that in the course of certain investigations, he had met with some results, which, now that the subject had been opened by Dr. Draper, he was inclined to attribute to the same cause. They were cases of the action of chlorine on organic liquids, in which the action was much more violent with a small quantity of liquid than with a large quantity, as if the light, being detithonized in passing through the larger mass, lost its energy in producing chemical action.—Mr. R. HUNT urged the necessity of broadly distinguishing, by appropriate names, the three constituent kinds of rays which are united in the solar beams, viz., those producing heat, light, and chemical action.—The PRESIDENT inquired, from Mr. Hunt, whether he considered these three kinds of rays which accompanied the solar beam to have the same origin, as, for instance, adopting the theory of vibrations as true for the luminous rays, did he conceive the calorific and the chemical rays were also merely vibrations in an elastic medium? If so, it was difficult to conceive the manner in which the permanent effect could be produced without calling in to the aid of the elastic ether, the molecular constitution of bodies themselves. This subject, in his opinion, demanded more attention than had hitherto been bestowed upon it.—Mr. Hunt considered that the three kinds of rays must unquestionably have the same origin.—Dr. GREEN said, that when he compared the results obtained by Dr. Robinson with these detailed by Mr. Hunt, he was inclined to infer that some permanent change was effected in light by the reflexion at the metallic surfaces of the specula.—Mr. NOTT said, that the delicacy and minute exactness of a Daguerréotype drawing when executed by the aid of the evening sun, was to a surprising degree beyond the effect of

the mid-day sun.—Mr. Hunt said, that he had found the mid-day sun far more energetic and rapid in its effects than the evening sun.—Prof. Stevelly said that the two statements were quite reconcileable, as Mr. Hunt spoke of the rapidity with which the effect was produced: whereas the statement of Mr. Nott had reference to the delicacy and minute correctness of the effect.

SECTION B.—CHEMISTRY AND MINERALOGY.

President—Prof. APJOHN.
Vice-Presidents—Marquis of NORTHAMPTON, Prof. KANE.
Secretaries—Mr. R. HUNT, Dr. SWEENY.
Committee—Prof. Stevelly, Dr. O'Shaughnessy, Major Beamish, Drs. F. Tamnau, Pickells, W. Gore, Messrs. T. Jennings, F. Jennings, W. West, J. de Cantabrana, F. G. Argles.

A letter was read from Professor Lyon Playfair, explaining the circumstances which had prevented Dr. Bunsen and himself from prosecuting their inquiries into the gases evolved from iron furnaces, for which a grant of 50*l.* was made at the last meeting, and recommending a renewal of that grant.

'Chromatype, a new Photographic Process,' by Mr. R. Hunt.—We are indebted to Mr. M. Ponton for the discovery of the first photographic process in which chromatic acid was the active agent. He used a paper saturated with the bichromate of potash, which, on exposure to sunshine, speedily passed from a fine yellow colour into a dull brown, giving, consequently, a negative picture. E. Becquerel improved upon this process, by sizing the paper with starch previously to the application of the bichromate of potash, which enabled him to convert the negative picture into a positive one by the use of a solution of iodine, which combined with the starch in those parts on which the light had not acted, or acted but slightly, forming the blue iodide of starch. These pictures are, however, tediously produced; they are seldom clear and distinct, and failure too frequently follows the utmost care. While the author was pursuing an extensive series of researches on the influence of the solar rays on the salts of different metals, he was led to the discovery of a process by which positive photographs are very easily produced. Several of the chromates may be used in this process; but the author prefers those of mercury or copper, the most certain effects being produced by the chromate of copper, and, indeed, in a much shorter time than with any of the other chromates. The papers are thus prepared: good writing paper is washed over with a solution of the sulphate of copper and partially dried; it is then washed with a solution of the bichromate of potash and dried at a little distance from the fire. Papers thus prepared may be kept for any length of time, and are always ready for use. They are not sufficiently sensitive for use in the camera obscura, but they are available for every other purpose. An engraving—botanical specimens or the like—being placed upon the paper in a proper photographic copying frame, it is exposed to sunshine for a time, varying with the intensity of light from five to fifteen or twenty minutes. The result is generally a negative picture. This picture is now washed over with a solution of nitrate of silver, which immediately produces a very beautiful deep orange picture upon a light dun colour, or sometimes perfectly white ground. This picture is quickly fixed by being washed in pure water and dried. The author remarked that, if saturated solutions were used, a negative picture was first produced, but if the solutions were diluted with three or four times their bulk of water, the first action of the sun's rays was to darken the paper, immediately upon which a very rapid bleaching action followed, giving an exceedingly faint positive picture, which was brought out in great delicacy by the nitrate of silver. It is necessary that pure water should be used for the fixing, as the presence of any muriate damages the picture, and hence arises another pleasing variation of the chromatype. If the positive picture be placed in a very weak solution of common salt, the images slowly fade out, leaving a very faint negative outline. If it be taken from the solution of salt and dried, a positive picture of a lilac colour may be produced by a few minutes' exposure to sunshine. Prismatic analysis has shown that the changes are produced by a class of rays which lie between the least refrangible blue, and the extreme limits of the violet rays of the visible prismatic spectrum—the maximum darkening effect being produced by the mean blue ray, whilst the bleaching effect appears to be produced with the greatest energy by the least refrangible violet rays.

'On the Influence of Light on the Growth of Plants,' by Mr. R. Hunt.—The peculiar influence exerted upon the germination of seeds and the growth of the young plants by coloured light, has been for some years the subject of the author's investigations. The results show the surprising powers exerted by the more luminous rays in preventing germination, and in destroying the healthful vigour of the young plant. Plants, when made to grow under the influence of the red rays, bend from the light as something to be avoided; while the blue or chemical rays are efficacious in quickening the growth of plants. Since the publication of the last Report, the author has tried plants of a great variety of kinds, and the same effects have been produced. It has, however, been found, that although blue light accelerates germination, and gives a healthful vigour to the young plant, its stimulating influences are too great to ensure a perfect growth. The strength of the plant appears to be expended in the production of a beautiful deep green foliage; and it is only by checking this tendency, by the substitution of a yellow for a blue light, that the plant can be brought into its flowering and seeding state. The etiolating influence of the green rays was observed upon, as well as the power which plants possessed of sending out shoots of a great length in search of that light which is essential to their vigour.

FRIDAY.

'On newly-discovered Three-twin Crystals of Harmotome, so arranged that they form a regular Rhombic Dodecahedron,' by Dr. F. Tamnau, of Berlin.—The celebrated Mohs was the first who observed that the modification of the primary form of harmotome was such as could never belong to the pyramidical system, in which it was placed by Werner and his disciples. Messrs. Phillips and Brooke gave measurements of the mineral, and confirmed the idea of Mohs. During a residence in Paris Dr. Tamnau met with a very beautiful three-twin crystal of harmotome, and also in Bohemia, in a basaltic rock in the neighbourhood of Aussig, on the bank of the river Elbe. It was accompanied with small crystals of analzime—little white crystals of chabasite,—and some yellow-brown crystals of carbonate of lime, which specimens were exhibited. Each of these little groups of crystals consists of three single crystals, so arranged that the axes cross each other at angles of 90°. By this arrangement the faces of the pyramid on the one crystal falls exactly together with the faces of the same pyramid of the other crystal; and if those faces were enlarged so much, that the faces of the prism should not be visible, they would give the form of a regular rhombic dodecahedron. Not only are the angles of the pyramid exactly determined independent of any single measurement, but it is also decided that the two angles of the pyramid are of the same value, and consequently that the mineral is not in its primary form of the right *rectangular*, but that it is a right square four-sided prism. And it may at the same time be observed that, however the distribution of the secondary faces may show the harmotome to belong to the prismatic system, we have in it a remarkable instance of a mineral which is pyramidical in its mathematical measurement, and at the same time prismatic in its physical qualities.

'On the Heat of Combination,' by Dr. Andrews.—The object of this communication was to announce the following general principle, as a consequence of previous researches of the author on the same subject, and to give a general account of some recent experiments which appear to him to establish its accuracy. The law may be thus stated: "When one base displaces another from any of its neutral combinations, the heat evolved or abstracted is always the same when the base is the same; or, in other words, the change of temperature which occurs during the substitution of one base for another in any neutral compound, depends wholly on the bases, and is in no respect influenced by the acid element of the combination." To test the accuracy of this principle by direct experiment, equivalent solutions of various neutral salts were decomposed by the addition of a dilute solution of the hydrate of potash. When the strength of the solutions and their temperatures were properly adjusted, the same variation of temperature always occurred during the decomposition of salts of the same base. If the base (in the state of a hydrate) developed, when alone, less heat than the hydrate of potash in combining with the acids, an elevation of temperature occurred during the decomposition of its salts by the latter; if the reverse were the case, the decomposition of the salts was attended by a diminution of temperature. Thus the decomposition of equivalent solutions of the salts of the oxide of copper, was attended by the evolution of the same amount of heat, as was also the decomposition of the salts of the oxide of zinc; but the heat extracted by the former was about twice as great as that extracted by the latter, because the oxide of copper produces less heat in combining with the acids than the oxide of zinc. The salts of lime furnish an example of an absorption of heat when their solutions are decomposed by potash,—a circumstance easily explained by the fact which has been before established by the author, that the hydrate of lime, when combining with the acids, developes more heat than the hydrate of potash. But, in accordance with the principle before stated, the diminution of temperature is the same with equivalents of all the salts of lime. In an inquiry of this kind many precautions are requisite, in order to obtain accurate results. Among the most important may be mentioned, the exact neutrality of the salt to be decomposed, a perfect equality of temperature in the solutions before mixture, and the precipitation of the oxide in the state of a pure hydrate, and not of a subsalt.

Prof. KANE thought it highly probable that the law propounded by Dr. Andrews will eventually be judged by chemists to be the most important communication made to this Section.—Prof. APJOHN observed, that the hydracids and oxyacids developed the same amount of heat in combining with a base.—Prof. KANE observed, that if we mix an atom of oil of vitriol with an atom of water, a considerable degree of heat is developed. Now, the concentrating of this dilute acid was not simply a case of evaporation, but one of decomposition; and it would appear that the same quantity of heat was necessary to effect that decomposition as was developed during the combination.

'On the Formation of Paracyanogen,' by Mr. T. Spencer.—The method by which the author proposes readily to form paracyanogen is, to take a solution of cyanide of potassium, sp. gr. 1200, at a common temperature. A current of chlorine is then passed into the solution, until it is thoroughly saturated, which is indicated by effervescence taking place on its surface. While passing the chlorine, the temperature of the solution is pretty rapidly raised, until it has acquired from 180° to 190° Fahr.; and at the period of saturation, dense white fumes are observed to pass off, which afford strong indications of ammonia and cyanogen. At this stage of the proceedings the solution becomes dark and turbid, and a black precipitate is observed to fall to the bottom of the vessel. If left to stand for a few hours, it will be found that a copious precipitate has settled, while the solution has assumed a scarlet colour. The liquid being decanted, the precipitate is collected on a filter and washed. This last operation should not be performed oftener than necessary, as the paracyanogen thus formed is, to a slight extent, soluble in water. This is the only property it seems not to have in common with the same substance formed by heat in the crucible, which the author supposes renders this substance harder than when formed in the wet way. The cyanide of potassium used was prepared in the way recommended by Liebig. When the solution has absorbed a volume or two of chlorine, the solution assumes a very beautiful red colour, which gradually becomes an opaque scarlet. Chlorine may still be passed through the solution decanted off, and fresh portions of paracyanogen obtained. Experiments were made with bromine and iodine; and it was found, that by combining these substances with the cyanide of potassium, paracyanogen is formed in the same manner as with chlorine.

Mr. WEST read a paper 'On a remarkable case of Corrosion of Lead by Spring Water, after passing through an Iron Pipe.'—In the case related, the water of a spring, which had flowed into and from a leaden reservoir for sixty years without injury to either, and which passed through leaden pipes with-

out metallic impregnation, when further conveyed a long distance, through iron pipes, contained lead in solution, and was so destructive to the bottoms of the leaden cisterns, into which it next flowed, that some of them had to be renewed in five or six years. Mr. West stated the analysis of the water in question, which, except as to the lead, were the same when taken from all the three situations; he imputes the mischief to contact with oxide of iron from the pipes, and considers that the remedy must be mechanical, by coating the iron pipes or the leaden cisterns with some other substance, so as to preserve the lead itself from contact with peroxide of iron.

'Report of the Progress of the Inquiry into the Chemical History of Colouring Matters,' by Prof. Kane.—Dr. Kane stated, that as yet but little progress had been made in this inquiry. Some members of the committee were however engaged in the investigation of the colouring matters of the lichens, and a few interesting results had been obtained.

'On the Decomposition of Carbonic Acid Gas, and the Alkaline Carbonates, by the light of the Sun,' by Prof. Draper, New York.—The decomposition of carbonic acid gas, by the leaves of plants under the influence of the light of the sun, is one of the most remarkable facts in chemistry. Dr. Daubeny, in a very able paper in the Transactions of the Royal Society for 1836, came to the conclusion, that the decomposition in question was due to the rays of LIGHT, a result obtained by the agency of coloured glasses, but which does not appear to have been accepted by later authors, who have attributed it to the chemical rays. There is but one way by which the question can be finally settled, and that is by conducting the experiment in the prismatic spectrum itself. When we consider the feebleness of effect which takes place, by reason of the dispersion of the incident beam through the action of the prism, and the great loss of light through reflexion from its surface, it would appear a difficult operation to effect the determination in this way. Encouraged, however, by the purity of the skies in America, I made the trial, and met with complete success. The plan followed, was that already described for determining the active ray, in the case of chlorine and hydrogen.* A series of tubes, half an inch in diameter and six inches long, were arranged, so that the coloured spaces of the spectrum fell on them. In these tubes, water, impregnated with carbonic acid gas, and containing a few green leaves (*poa aquatica*), was placed. It was expected, that if the decomposition be due to the radiant heat, the tube occupying the red space, or even the one in the extra-spectral red space, would, at the close of the experiment, contain most gas. If it were the "chemical rays," in the common acceptation of the term, we might look for the effect in the blue, violet, or indigo spaces; but if it were the LIGHT, the gas should make its appearance in the yellow, with some in the green, and some in the orange. I made the trial several times, and found it much more easy to accomplish than I had expected. The results were briefly as follows:—In the tube that was in the red space a minute bubble was sometimes found, but sometimes none at all. That in the orange contained a more considerable quantity; in the yellow ray a very large amount, comparatively speaking; in the green a much smaller quantity; in the blue, the indigo, the violet, and the extra-spectral space at that end, not a solitary bubble. From these facts, in connexion with some results obtained by the use of bichromate of potash, as an absorptive medium, I conclude that it is the rays of light which effect the decomposition, and that the rays of heat and the tithonic rays have nothing to do with the phenomenon. The alkaline bicarbonates are easily decomposed by elevation of temperature, yielding a portion of their acid at the boiling point of water. Instead of using a solution of carbonic acid, I endeavoured to effect the decomposition of these salts by leaves in the sunlight, and found that it took place with facility. Nor is the effect limited to the removal and decomposition of the second atom of the acid. It passes on to the first; the neutral carbonate of soda itself decomposing and yielding oxygen gas. In like manner the sesquicarbonate of ammonia may be made to yield a very pure oxygen gas. Dr. Draper, in concluding this communication, alludes to his method of multiplying the Daguerréotype pictures, as published in the *Philosophical Magazine*, and then mentions a process of precipitating copper, after the picture has been fixed by gold, by the electrotype process, on the plate, which, as he states, gives a very perfect copy. "It is difficult," says the Professor, "to describe in words the beauty and perfection of these '*copper-tithonotypes*.' The problem of multiplying the Daguerréotype may be now regarded as completely solved."

Prof. APJOHN made a few remarks on this communication, which announced results so different from our received ideas on this subject, it being generally agreed that the chemical rays were the most active in producing the decomposition of the carbonic acid absorbed by the plant. He then called upon Mr. R. Hunt, who had paid much attention to this subject, to state the result of his experience to the Section.—Mr. HUNT said, that he had listened with great surprise to Dr. Draper's paper, as, from his own experiments with coloured glasses and transparent media, carefully analyzed so as to determine what rays were absorbed, and what rays passed through them, he had arrived at conclusions diametrically opposed to those now put forth. He acknowledged that he had never tried the experiment with the pure rays of the prismatic spectrum, but he should certainly lose no time in doing so on his return to England. Mr. Hunt then noticed some peculiarities which had been observed in the light of southern climes, to which he was at present inclined to attribute this difference in the result of experiments.

* See Report of Section A.

THURSDAY.

SECTION C.—GEOLOGY AND PHYSICAL GEOGRAPHY.

President—Mr. R. GRIFFITH.
President for Geography—Mr. R. I. MURCHISON.
Vice-Presidents—Messrs. W. HOPKINS, C. LYELL, J. TAYLOR.
Secretaries—Messrs. F. JENNINGS, H. E. STRICKLAND.
Committee—Marquis of Northampton, Major S. Cierke, Mr. E. Forbes, C. Y. Haynes, M.D., Mr. J. Heywood, Lieut. de Kokscharoff, Mr. C. B. Newenham, Prof. Owen, Messrs. J. Phillips, R. Taylor, H. Townsend, R. W. Townsend, Rev. D. Williams, Messrs. E. Winterbottom, D. Gilbert, Sir R. Steele, Sir C. Lemon, Messrs. W. Hatfield, E. W. Binney, H. N. Nevins, T. Oidham.

'On the structure of the Appalachian Mountains,' by C. Lyell, Esq., F.G.S.—Mr. Lyell exhibited and explained a transverse section of the Appalachian chain of Mountains in North America, communicated by Professors W. B. and H. D. Rogers, and intended to illustrate the law of structure prevailing throughout that chain. Mr. Lyell had himself verified those phenomena as seen in Pennsylvania, in company with Professor H. D. Rogers, and had also observed the same in crossing the mountains of Maryland, between Baltimore and Pittsburg. The structure of this chain was previously explained to the Meeting of the British Association, at Manchester,* but, from the absence of illustrations, was not then understood or duly appreciated. Mr. Lyell dwelt on the great importance and originality of these communications, which had been deduced from many years of careful observation.

'On the Phenomena and Theory of Earthquakes, and the explanation they afford of certain facts in Geological Dynamics,' by H. D. Rogers, Professor of Geology in the University of Pennsylvania, and W. B. Rogers, Professor of Natural Philosophy in the University of Virginia.—The authors first proceed to examine the *phenomena attending earthquakes*, commencing with the following propositions:—1. Earthquakes consist essentially of a wave-like motion of the whole solid ground. 2. The earthquake undulation is not simultaneous throughout the whole area agitated, but is *progressive*, and propagated with enormous velocity. 3. The undulation is transmitted sometimes in the manner of an elongated, curved, or nearly straight belt, moving parallel to itself, and sometimes in the manner of a dilating elliptic or circular zone. The authors then describe earthquake phenomena as divisible into such as are of invariable occurrence, and therefore characteristic, and such as are only occasionally witnessed. The *characteristic phenomena* consist, as announced by the Rev. John Mitchell, of Cambridge, in the Phil. Trans. for 1760, of a peculiarly rapid *undulation*, or wave-like motion of the ground, and a sharp vibratory jar, or *tremor*; the undulation generally extending further from the source of the earthquake than the tremor. The *occasional phenomena*, observable only when the earthquake is violent, are a deep rumbling and grating noise, an alternate opening and closing of parallel fissures, and the escape of steam and sulphureous and other vapours, and hot water, from those fissures. In confirmation of these observations, the authors cite the earthquake of Conception, in 1835, described by Captain Fitzroy, and that which visited the island of Hayti, in May 1842. As examples of the second proposition, they mention the earthquake of Lisbon, and two others which have occurred during the present year. The first of these took place on the 4th of January, and was felt along the valley of the Mississippi, from the military posts on the frontier west of that river, to the coast of Georgia, and from 31° N. lat. to Iowa, a distance of about 800 miles in each direction; it occurred about 9 P.M., and was sufficiently violent to excite some alarm; throughout the region agitated the motion was both undulating and vibratory. From a comparison of the dates of the shock at twenty-seven different localities, it appears to have been simultaneous along a certain line, stretching in a N.N.E. direction from the western margin of Alabama to Cincinnati, a length of more than 500 miles; it was also synchronous along other lines parallel to this; places to the westward experienced the shock earlier than the other localities, the intervals being in proportion to the distance. From these facts the authors infer "*that the area agitated at a given instant was linear*, and *that the earthquakes moved from W.N.W. to E.S.E. in the manner of an advancing wave.* The velocity with which the shock was propagated appears to have exceeded thirty miles per minute. The second, or *Guadaloupe earthquake*, was felt along the Windward Islands, at Demerara, and Guiana, Bermuda, and most of the principal cities of the Atlantic seaboard of the United States, from Savannah to New York. Its range, in latitude, amounted to 35°, and in longitude, to 23°: the longest diameter of this elliptical area extending from Demerara to New York, was about 2,300 geographical miles; and its breadth, from Bermuda to Savanna, 770 miles. The principal intensity of the disturbance was confined to a nearly N. and S. line, or belt, embracing St. Vincent's, St. Lucia, Martinique, Dominica, Guadaloupe, and Antigua; and thence prolonged to the continent of South America, and to Bermuda. Along this curved axis the shock was simultaneous: and from a comparison of observations made at other stations, it appears to have been propagated eastward and westward at the rate of twenty-seven miles per minute. In the second part of their communication the authors propose a *theory of the origin and movement of earthquakes*, as applied by them in explanation of the structure of the Appalachian Mountains. According to this theory, the wave-like motion of the earth's surface during an earthquake is of the nature of an "actual billowy pulsation in the molten matter," upon which they suppose the crust of the earth floats, "engendered by a linear or focal disruption and immediate collapse of the crust, accompanied by the explosive escape of highly elastic vapour." The progressive waves of oscillation thus developed on each side of the axis of disturbance, would move off in parallel order, and form a dilating elliptic zone. Supposing the earth's crust to be ruptured only at a focal point, as in the orifice of a *volcano*, the receding pulsations would be approximately *circular*; whereas, if the line of fracture were greatly elongated, and the pulsations observed but on one side, the advancing belt of waves would appear straight.

The sea-waves caused by earthquakes are described as broad undulations of the water, moving in the same direction with the pulsation of the crust beneath, at the rate of three and a half miles per minute in the case of the New England earthquake of 1755; and at the rate of five miles per minute during the great Lisbon earthquake, the waves succeeding each other at regular intervals of five minutes. Assuming these sea-waves to correspond with the undulations beneath, the authors calculate the *breadth of the crust waves* in the Lisbon earthquake at twenty-five miles; and in the earthquake of Conception, where the undulations averaged four per minute, and travelled forward at the rate of forty-two miles in the same time, each wave possessed a breadth of at least ten geographical miles. *The tremor attending earthquakes* is considered as the *effect* of the crushing of the strata during, and caused by the undulations, rather than as the result

* See *Athenæum*, August, 1842.

of waves of vibration, which would be dispersed and destroyed by the broken condition of the materials and their heterogeneous composition.

Application of the theory of earthquakes.—From these considerations the authors infer, that when earthquakes produce any *permanent* elevation or depression of the land, the tracts so affected will generally have the shape of elongated parallel belts, as exemplified in the Ullah Bund in the Delta of the Indus, the elevation of the coast of Chili, and the local arching of the surface across the bed of a river in Chili, mentioned by Darwin. Referring to their memoir on the Appalachian chain, the authors contend that the structure of those mountains (and, by analogy, those of other countries) implies the operation of far greater and more sudden forces than the gentle secular changes observed in modern times; and they consider it impossible to avoid the conclusion, that all the more extensive revolutions of the earth's crust have involved, to a greater or less extent, the *agency of vast earthquake waves*. To the action of these waves, in different geological epochs, they attribute the formation of the vast masses of conglomerate and detrital deposits distributed in the various groups of strata; also the transport of the great northern drift, and the polished and furrowed surfaces of rocks both in Europe and New England.

In the course of the discussion, which followed the reading of this paper, Major S. Clerke begged to mention a fact which had come under his own observation. Having witnessed the great eruption of Mount Vesuvius in 1822, it occurred to him to ascertain whether any reciprocity existed between that volcano and the small crater of the Solfatara, near Pozzuoli, distant about ten miles, in a line across the Bay of Naples. On proceeding to the latter place he was informed by the Custode, an intelligent man, that since Vesuvius had been in activity, the Solfatara had subsided. Major Clerke, on a personal examination of the aperture forming the vent of the Solfatara, found this to be the fact, the usual eruption and loud noise having ceased. When Vesuvius relapsed into quiet, the Solfatara resumed its activity.

'An Account of the late Earthquake at the Islands of Antigua and Guadaloupe, on the 8th of February, 1843,' by the Hon. Capt. Carnegie, M.P.—The earthquake is described by the author of the communication as having been felt, generally, among the Leeward Islands, but more particularly at Antigua and Guadaloupe. At both these islands the shock took place at twenty minutes before eleven o'clock, A.M., and it does not appear to have been preceded by any of the usual signs of earthquake; the weather was clear and fine, the sea-breeze blowing as usual, and the inhabitants engaged in their daily avocations. At Antigua the earth heaved and undulated suddenly; the hills oscillated, and huge masses of rock were detached from their summits and precipitated into the valleys; large fissures opened in the ground and closed immediately. The water in the harbour whirled round and round, enveloping the islands in a cloud of dust, which shut them from view, and in the space of two minutes and a half all Antigua was laid in ruins. In this island only eight persons lost their lives, owing to the black population being employed, as usual, among the canes, but the loss of property was immense. At Point-à-Pitre, in the island of Guadaloupe, the effects were much more fearful. In magnitude, this was the second town in the West India islands; it was situated upon a piece of low ground, surrounded on three sides by the sea, and entirely built of stone to avoid the effect of hurricanes. At the time of the earthquake, most of the inhabitants appear to have been at their late breakfast, in consequence of which 4,000 perished among the falling houses or in the fire which broke out immediately after; the destruction of the whole town was so complete, as to present, after the earthquake, the appearance of a vast stone quarry. The landslips were very numerous, and all the springs in the vicinity of Point-à-Pitre were instantly dried up. The shock was felt slightly as far north as Washington and Bermuda, and southward, to Demerara, travelling in a N.N.E. and S.S.E. direction; several slight shocks were subsequently felt at different periods.

'On the Direction of the Currents, by which certain Gravel Hills and Erratic Blocks were distributed in the north of the counties of Mayo and Sligo,' by R. Griffith, Esq.—Mr. Griffith states, that the erratic block deposits of Ireland were distributed by a force moving generally in a north-west and south-east direction, modified, however, in many localities by the opposition of mountain ridges and deep valleys. This deposit consists usually of clay and rolled fragments of limestone, derived from the carboniferous rocks, which occupy two-thirds of the island; and these materials seldom exhibit any trace of stratification. It frequently exceeds one hundred feet in thickness, and occupies all the valleys, and even the interior of the mountains, occurring either in one thick mass, or in elongated ridges, known by the name of *Eskers*. The prevailing direction of the mountain ridges of Ireland is north-east and south-west, that is, at right angles to the supposed direction of the current by which the drift was deposited; in consequence of this, the deposits of detrital limestone are distributed only on the north-western declivities of the hills. In the granite and slate hills of Wicklow, the limestone gravel has passed through the valleys of that range, and formed a valuable deposit to the east of Mount Leinster, spreading over the Cambrian slate, east of Newtown Barry, in the county of Wexford; the same facts may be observed in the Slievebloom mountains, in the Galtees, and the Monavullagh mountains. The summit of Blatinglass Hill, on the northern edge of the Wicklow granite district, is 1,256 feet above the level of the sea; to the eastward of this hill there is no limestone gravel, whilst it is abundant on the lower hills, and in the valleys to the south; to the north of this hill the gravel is seen at an elevation of 880 feet, from which Mr. Griffith infers, that the transporting force did not operate at an elevation exceeding 1,000 feet. Besides the limestone gravel, boulders of granite and conglomerate are occasionally found scattered on the surface, and not included in the clay drift; from the peculiar composition of the granite of certain districts, it is not difficult to detect the locality from which these blocks were derived, and hence the author has been enabled to detect small boulders of the Connemara granite, in the valley east of the Slievebloom mountains, also in King's County, and in the limestone district of Galway; indicating a north-west and south-east direction, in the line of transport, throughout a very large portion of Ireland. This direction, however, has not been universal. In the counties of Sligo and Mayo there are two ranges, namely, the Ox and the Curlew mountains, having nearly parallel directions from north-east to south-west. The Curlews consist of reddish-brown sandstone, connected with the upper Silurian system; the Ox mountains, situated about twelve miles north of the Curlews, are composed of mica slate and granite, whilst both ranges are flanked by strata belonging to the carboniferous system. South of the Curlews the gravel contains limestone only, and the *eskers* extend in a northern direction up the southern declivities of the hills; towards the summit, boulders of yellowish-gray limestone are scattered on the surface, while downwards to the limestone valley, on the northern side, the surface is thickly covered by very large boulders of reddish-brown sandstone, sometimes weighing several tons, the largest occurring nearest the ridge; towards the base of the Ox mountains these boulders are still very numerous, but much diminished in size. Ascending the mica-slate ridge of the Ox mountains, small boulders of red sandstone still occur, together with small *eskers* of limestone gravel, sometimes remarkable from their forming ridges *directly across the valleys*, as in the valley of Lough Easky. To the north and south of this lake the rock is mica slate, but at the lake itself there has been an extensive protrusion of granite. In the line of the road to Easky, two miles south of the lake, the valley is crossed at right angles by two *eskers*, composed of rolled fragments of limestone and some clay; they are thirty feet in height, and very steep; their elevation above the plain, from which they have apparently been derived, is 250 feet; numerous large boulders of mica slate are strewed over their surfaces, but none are intermixed with the gravel. Approaching Lough Easky, there is an elongated sinuous *esker* nearly parallel to the line of the valley; it is composed altogether of pebbles of quartz and mica slate, mixed with sand and clay, all derived from the adjoining mountains, thus forming a moraine, which may be accounted for on the hypothesis of Agassiz. Following the valley of Lough Easky to the sea shore, a distance of ten miles, the entire surface of the limestone country is thickly strewed with large boulders of granite; some of these close to the shore are of enormous dimensions; one of them being about one hundred tons in weight. They occur also along the whole line of coast westward, from Easky to Erris, in Mayo, and with them a few rolled blocks of mica slate, occasionally, but no limestone, though the entire district, which is comparatively low and flat, is composed of strata belonging to the carboniferous system. These granite boulders are precisely similar in composition to the granite of Lough Easky, Lough Talt, and Foxford. Taking all these facts into consideration, it is evident that in these localities the currents must have been from the south, and not, as in other districts of Ireland, from the north-west to the south-east.

Section D.—Zoology and Botany.

President—Mr. W. Thompson.
Vice-Presidents—Messrs. R. Ball, R. Owen, Prof. E. Forbes, Mr. C. C. Babington.
Secretaries—E. Lankester, M.D., Messrs. R. Patterson, G. J. Allman, M.B.
Committee—Mr. R. Dowden, Dr. Harvey, Rev. W. Hincks, Rev. Dr. Hincks, Messrs. W. Clear, J. T. Mackay, H. E. Strickland, J. Humphreys, E. Winterbottom, Drs. Power, C. Croker.

Dr. Lankester read a paper, from Mr. Robert Milliken, on a supposed anomaly in the Fructification of the Violet.

Mr. Babington said that the author of the paper had described the appearances correctly, but had come to a wrong conclusion. The fact was, that in Viola some flowers were later than others in appearing, and that the later ones were generally imperfect, not having any corolla. The later flowers appearing without petals had misled Mr. Milliken to the supposition that these produced their fruit as the result of the flowering of the first flowers.—Prof. E. Forbes stated that the absence of petals was a permanent state of some of the species of the violet.

'On the addition of the Order Nucleobranchia to the British Molluscous Fauna,' by Prof. E. Forbes.—Four years ago the author noticed minute needle-shaped animals floating in the waters of the Frith of Forth and of the British Channel, which, when examined under the microscope, presented several anomalous characters, which rendered their true position in the animal series doubtful. At the time he was able to make but an imperfect examination of them, which he laid before the Wernerian Society. He has since met with much larger animals, belonging to the same genus, inhabiting the Mediterranean seas, which enabled him to refer them to the genus Sagitta of Quoy and Gaimard, placed by those naturalists in the immediate neighbourhood of Firola, in the order Nucleobranchia. Both the British and Mediterranean animals have linear-lanceolate bodies, terminated anteriorly by an oval head, and posteriorly by a horizontal tail. Along the sides are two pair of fins, also placed horizontally, the uppermost pair being large in the British, and extremely small in the Mediterranean Sagitta. From the latter the following points of structure were made out. On each side of the head is a row of curved bristle-like processes, which can be erected or depressed at the will of the animal. On the head are two distinct black eyes. The mouth opens into a straight intestine, terminating in a vent where the body begins suddenly to contract, at about two-thirds of its length. On each side of this vent, but opening on the opposite side of the body, is a slightly curved canal, terminating in a *cul de sac*, and resembling closely the canals which contain the pinnated appendages of the cydippe, but empty. The fins are of various shapes, and appear to form a sound basis for specific distinctions. They are rayed. The length of the largest specimen was two inches. The British examples were very minute. M. D'Orbigny has figured and described several species of Sagitta, which he observed during his South American voyages; but the details of his observations do not exactly coincide with those of Professor Forbes. The body which D'Orbigny styles a heart was not seen by the latter in any case; and the only circulation observed was an obscure movement of fluid with granules in the posterior part of the body behind the anus. No appearances of cilia were seen on the external surface. The author concluded, that however anomalous the characters of these curious animals might seem,

it was nevertheless convenient, and probably correct, to arrange them among the nucleobranchous mollusca. To the same order he was inclined to refer the shell called, by Dr. Fleming, *Fusus retroversus*, and which appears to be identical with, or at least very nearly allied to, the *Atlanta trochiformis* of M. D'Orbigny.

Mr. THOMPSON produced a work of Sars, from which it appeared that a similar animal had been found near Bergen, in Norway. The animal in question, therefore, inhabited a large range from south to north.—Dr. ALLMAN had some years ago discovered the *Sagitta* about an inch long, on the south coast of Ireland, and regretted that he had not at the time an opportunity of describing it.—Mr. Thompson had seen Dr. Allman's drawing, and believed the two animals to be of the same kind.—Prof. FORBES said, that with regard to the position of the *nucleobranchiata* in the animal scale, he believed they were analogues of the Acalephæ, only higher up in the scale; they were a step in the progression from polypes through the mollusca up to the vertebrata. In this progression they passed through the cephalopoda, which they resembled in many points. Although an animal might be low down in the direct scale of classification, yet it might possess many of the functions of beings higher up. Thus the cephalopoda frequently present more vertebrate functions than many of the vertebrata themselves.

Mr. MACKAY exhibited specimens of the Irish saxifrages. He called attention to the species resembling the London Pride (*Saxifraga umbrosa*), and with the specimens of the species he also exhibited several varieties of *S. geum*, *S. hirsuta*, *S. h. polita*, &c.—Mr. BABINGTON remarked, that Saxifraga was a difficult genus to study. There were many specimens on the table, which, if they came from different countries, would be naturally described as species, but which, as they were all gathered in Ireland, he had no hesitation in calling varieties. It was no proof that a plant was a species because it remained the same in cultivation for a great length of time, for many varieties did that. He had paid great attention to the saxifrages, and of those belonging to the London Pride tribe, he believed that only *S. umbrosa elegans*, *geum*, and *hirsuta*, were species. The variety, *S. u.* of Mr. Mackay, was not the London Pride of the English gardens, which was identical with the London Pride of the Pyrenees.—Prof. FORBES said, that the difference between botanists, with regard to species and varieties, could only be reconciled by ascertaining from each writer an estimate of the value he attached to particular characters. For the want of this there was much confusion even in Botany, but the evil was much greater in Zoology. The vague manner in which the characters of animals were drawn up by British zoologists, was a constant cause of complaint among continental naturalists.

The Rev. W. HINCKS then called attention to two living specimens of the *Neottia gemmipara* of Smith. This very rare plant had been discovered by Mr. J. Drummond in a salt marsh near Castleton Bearhaven, in the county of Cork, in 1810. From an imperfect specimen, Sir J. S. Smith had described and figured it, and it had not been seen again till 1841, when it was re-found by Dr. Sharkey. Only one specimen was again obtained, and it was with difficulty identified with the original specimen in the Linnean Herbarium in London. Dr. Wood and Dr. Harvey had, during the past week, both gathered living specimens, which were now on the table. The original plant was not a Neottia, as had been supposed by Smith, but was now referred to Spiranthes.—Mr. BABINGTON stated, that he had carefully examined the plant on the table, and believed that it was a genuine Spiranthes. It was a matter of great interest, as probably this plant was one of the rarest in the world. There was no record of its having been found anywhere but in the locality from whence these specimens were brought.—Mr. Hincks stated, that among some Californian plants received in London, had been found what appeared to be a *Spiranthes gemmipara*.

Dr. ALLMAN exhibited specimens of a Linaria which he had gathered in Ireland. He believed it to be a new species, and had described it at a meeting of the Royal Irish Academy. It had been supposed to be the *Linaria Italica* of Treviranus, which had also been found in England, but this plant differed in many respects from *L. Italica*.—Mr. BABINGTON thought the plant of Dr. Allman differed from the English *L. Italica*. Should this Linaria be a new species it will probably be new to the European Flora.—Dr. Allman stated, that botanists in London had pronounced his plant a hybrid, and Mr. Mackay concurred with this opinion.—Dr. Allman then exhibited specimens of the very rare *Trichomanes speciosum*, and also of one discovered by Mr. Andrews of Dublin, which differed from it in many points, and which might probably turn out a new species. The principal features of difference that this fern presented were, the possession of bipennate fronds, long bristles, and the triangular form of its fronds: in all these points it differed from *T. speciosum*.—Mr. MACKAY had cultivated the plant in question since Mr. Andrews discovered it, and it was his conviction that it was a new species.

FRIDAY.

The SECRETARY read a report from Mr. Blackwall, 'On the Functions of the Palpi of the Araneidæ,' which had been called for at the last meeting of the Association. After stating all the opinions hitherto formed, as to the functions of the palpi of the Araneidæ, the author detailed a series of experiments on the subject, and the conclusions derived from them.

Prof. OWEN acknowledged the pleasure with which he had listened to this paper, and gave a complete view of the difficulties attending the assignment of the true function to the palpi of spiders. In alluding to a portion of Mr. Blackwall's paper, he gave an account of the structure and functions of the ovarial sac of aphides, accounting for the well known fact of the anomalous reproduction to which they were subject. He inquired whether any cases were recorded in which the ovary of plants bore seeds for successive periods without the contact of the pollen-tubes.—Dr. LANKESTER recollected the instance of a plant in the Botanic Garden at Kew bearing fruit and seeds, in which instance it was impossible to discover any organ resembling the stamen or assuming its functions.

Mr. PATTERSON then read a paper, by the Rev. J. B. Clarke, 'On the Irish Species of the Genus Limax.'—Two species were described in detail, which had not been included, by previous writers, in the British catalogue, the *Limax arboreus* of Bouchard, and the *L. Gagates* of Draparnaud and Ferussac. The *L. arboreus* is not uncommon in the wooded districts of Ireland, especially on the ash and the beech; concealing itself during the day-time under the moss and the trunk. *Limax Gagates* (Draparnaud), the Irish specimens of this limax agree with Ferussac's variety β. The only British species with which it can be compared, as to form, is *L. Sowerbii*. In some districts of Ireland the species is not uncommon; frequenting gardens and thick herbage. In the course of the paper all the British Limaxes were mentioned as occurring in Ireland, with the exception of *Limax brunneus* (Draparnaud), which had not as yet come under the notice of the author.

Prof. FORBES considered this as one of the most valuable papers that had been written on the genus Limax, which had been little attended to, though forming an important link in the scale of creation.—Mr. THOMPSON observed that this paper was interesting, as recording two forms of Limax in Ireland, which were not only new to Ireland, but did not at present exist in the British Fauna.

Dr. ALLMAN then read a paper 'On the Anatomy of *Plumatella repens*,' which was illustrated by diagrams, as well as specimens of the animal preserved in spirit. The author divided his paper into two sections; in the first of which he gave the zoological characters of the zoophyte, and in the second entered into the zootomical details of its structure. In the first part of the paper it was attempted to reduce to some sort of order the chaotic mass of synonyms with which the zoophyte in question was encumbered. This was facilitated by keeping in mind the existence of two variations, which *Plumatella repens* is seen to assume. In one of these, the zoophyte will be found attaching itself to flat surfaces, as the under side of stones, and of the floating leaves of water plants, &c., being closely adherent in its entire extent. In the second variation it will be found fixed to surfaces of small extent, as submerged stems and pieces of stick, and, as the animal continues to develope, the branches having no extensive surface of attachment will become free, and a more or less enlarged bushy mass will be the result. *Plumatella repens* exhibits, in a high degree of perfection, the molluscan type of structure; and a distinct pharynx, stomach and intestine may easily be traced. Connected with the mouth, there is here, as well as in other fresh-water zoophytes of the same order, a very singular valve-like organ. The structure of the animal's stomach was described by Dr. Allman with much detail. Two distinct groups of muscles may be detected in *Plumatella repens*, one, which corresponds with the anterior set of retractor muscles, described by Dr. Fane in the Ascidian zoophytes of the sea; and another, analogous to the opercular muscles of this anatomist. The ova will be found to consist, as in those of Alcyonella, of a central disk, inclosing the embryonic matter, and of a rim which surrounds the disk, and from which it differs considerably in structure. The disk is formed of two membranes, each of which is composed of a single layer of minute vesicles. These membranes differ from each other in the size of the component vesicles; and as there is but a single layer of vesicles in each, one face of the disk must consequently be thinner than the other. Both faces are concave on one side and convex on the other, and the concave sides being opposed, and the edges united, a closed space is thus formed, which is filled by an immense number of minute whitish globules, floating in a gelatinous fluid, and which are afterwards to be developed into the perfect zoophyte. The walls of the disk are of a horny elastic texture, of a deep brown colour, and when emptied of their contents are found to possess some degree of transparency. There would appear to be no possible way by which the ova can be liberated from the tubes but by the decomposition of the latter; and we accordingly find, after the zoophyte has entirely disappeared from the surface of the stone, on which it crept, rows of these bodies occupying the place of the original polypidom, and mapping out its several ramifications. Notwithstanding the apparently complete destruction of the polypidom, the ova are found closely adherent to the substance to which the zoophyte had been fixed. This would appear to be effected through the medium of that portion of the tube to which they adhered, for the remainder of the polypidom, becoming decomposed and washed away by the action of the water, this alone remains, being protected on each side from the influence of external agents.

Prof. OWEN then made several inquiries of Dr. Allman, with regard to the condition of the muscular fibres when in a state of contraction, and whether his observations, on this point, coincided with those of Dr. Arthur Fane.—Dr. ALLMAN stated, in reply, that the muscles were shorter when acting, and sinuous, but he had not observed nodules in the muscles of fresh-water zoophytes.—Prof. Owen thought that Dr. Allman was right in placing these animals as allies of the compound Ascidia, in which position they must be regarded as analogous to, though having no close affinity with, the polyps. Their tentacula and the vibratile cilia of their respiratory organs were in accordance with their generally elevated structure. They have, in fact, a high degree of organization, but this was generally arrested in a low stage of developement.—Mr. PATTERSON stated, in connexion with the subject of the tunicated Ascidians, that he had often found, in the thoracic cavity of the *Ascidia communis*, numerous small crustaceous animals; he wished to know if this was a singular fact.—Mr. PEACH then described the form of small bodies which he had found floating about in the water, in which he had kept specimens of the species of *Sertularia* and *Campanularia*. From the Sertularia there proceeded thousands of small globular bodies which were covered with cilia, and which were sensitive to the touch; he supposed these must be ova. He did not think they were the tentacula of the animal, as they were floating about by thousands.—Prof. FORBES, in reply to Mr. Patterson, stated, that the existence of crustacea was not unfrequent in the thoracic cavity of many of the tunicated mollusca. He had found them in the Salpa in great numbers. Some of these crustacea were very large. The phosphorescence of the Salpa, which was often observed, did not depend so much on the animal itself, as on the crustacea

contained in their inside. He considered the small bodies with cilia, described by Mr. Peach, to be the young of some of the forms of the Medusæ. The other was also, probably, a young form of Medusa, and had been described by Sir J. Dalyell, as the young of a Sertularia.—Dr. LANKESTER had found *Plumatella repens*, at Campsall, in Yorkshire, and as this was an uncommon animal, it might be useful to those who wished to examine its structure, to know its locality. He regretted that the public was not yet acquainted with Sir J. Dalyell's valuable researches.—Prof. Forbes was glad to be able to state that Sir. J. Dalyell had made arrangements for publishing his very valuable collection of drawings, as well as his observations on the habits of the radiate tribes of animals.

'On the Habits of the Marine Testacea,' by C. W. Peach.—The author commenced with stating that the *Purpura lapillus* deposits its *nidi* all the year round, but is most active in the first four months of the year: the young escape from the *nidi* in about four months. *Buccinum reticulatum* deposits its *nidi* on weeds, stones, and the wicker-work of the store pots of the crab-catchers. They are strung together and overlie each other like the brass scales on the straps used for holding on the caps of soldiers. They are of the shape of the spade on playing cards. The author is also of opinion that the *Patella lævis* and *Patella pellucida* are the same shell, the one being the young state of the other. He then went on to describe the *Fissurella nubecula*, and to show that this shell has a serrated instead of a plain margin, and that the apex is surrounded by three teeth. In consequence of it having been asserted, at the meeting of the British Association at Plymouth, that the *Saxicava rugosa* was not an inhabitant of deep water, the author stated that he had got specimens alive in limestone five leagues from the land, and in thirty fathoms water. *Pholas lamellata* was found, also, under similar circumstances, in red sandstone. He next proceeded to describe the *Pholas dactylus*, which he had found in clay slate, in Cornwall, and to describe particularly the form and actions of the animal which he had kept alive in his house more than a month (there were fifteen or sixteen shells of all sizes); and although he marked the slab in which they were, he could not perceive that they *turned round for the purpose of boring*. In the same slab he also found *Pholas parva*.

Prof. FORBES pointed out the fact, that *nidi* of all the mollusca afforded a good ground for the formation of specific characters of secondary value. This was more especially the case with regard to the carnivorous mollusca. He hoped Mr. Peach would continue his researches on *Patella pellucida* and *lævis*, for he still must consider them as distinct species, especially as he had seen *pellucida*, which was considered often as the young of *lævis*, larger than *lævis* itself. He believed that two distinct species might be specifically alike when young, and their characters only become apparent through age. He did not, however, believe, with Agassiz, that there might be two species identically the same and yet distinct by being created at different periods. With regard to *Buccinum reticulatum*, nothing had been previously known of its habits, as it was always thrown up dead upon the shore. He had also found *Saxicava rugosa* in the deep sea in the Mediterranean, but it was not always confined to a calcareous bottom, as supposed by Mr. Peach. He hoped that Mr. Peach would continue to prosecute his researches with regard to the habits of the Marine Invertebrata.

Mr. HUMPHREYS then read a paper on the Mollusca of the County of Cork, of which he enumerated 230 species, besides 55 species of the Articulata and 25 of the Radiata.

Mr. THOMPSON stated that, of the Echinodermata mentioned in this list, all the rarer forms had been figured by Prof. Forbes, in his 'History of British Star-fishes.' The crustacea were interesting, as many of them had been added to the list by Dr. V. Thompson, when he resided in Cork. Of the land and freshwater shells on the list, the *Linureus involutus* was known only in the south of Ireland. The marine shells were exceedingly abundant, as the Cove of Cork was, after Bantry Bay, the best station for them in Ireland. One of these, a new one, had been named after the author of the paper, *Buccinum Humphreysianum*. This was not, as had been supposed, the *B. anglicanum* of Lester.

Mr. H. G. STRICKLAND then read the Report of the Committee appointed to investigate the length of time during which seeds would retain their vitality. Several experiments were making, and the committee still invited the attention of the members to this subject, as they would be glad to receive, from any source, seeds of which the great age could be clearly ascertained.

THURSDAY.

SECTION E.—MEDICAL SCIENCE.

President—Sir JAMES PITCAIRN, M.D.
Vice-Presidents—W. BULLEN, M.D., C. P. CROKER, M.D., A. H. CALLAHAN, M.D., C. BELL, M.D.
Secretaries—J. POPHAM, M.D., R. S. SARGENT, M.D.
Committee—Drs. D. B. Bullen, Houston, Cronin, J. F. Duncan, Townsend, Olliffe, Wherland, Bevan, Howe, Harrison.

Sir James Pitcairn in the chair.

The PRESIDENT read a letter from Prof. Sharpey, of London, in reference to the researches which he was carrying on with M. Erichsen, on the subject of Asphyxia; and expressing a hope that the grant of money made at the last meeting, to defray the cost of the experiments, which are not yet concluded, would be continued.

Dr. OLLIFFE (of Paris) read a paper 'On a peculiar Disease of the Biliary Ducts.'—The affection to which he was about to call attention, had never yet, he believed, been described by any author, and was of great importance, as it proved fatal in the case first brought under his notice. It occurred in the person of an officer who had resided for many years in India, and during that time suffered from the "Jungle Fever," or a peculiar intermittent of the tertian type, which was afterwards renewed in a slight form in Italy. Many years afterwards he was attacked by symptoms, not of an aggravated character at first, such as slight nausea, every morning, but not amounting to vomiting, with debility. Then rigors of daily occurrence set in, followed by fever, terminating in diaphoresis; he seemed labouring under an attack of ordinary intermittent fever. The periodical symptoms were removed by the administration of quinine; but the debility increased, with some tenderness over the region of the liver, which appear to be hypertrophied. Notwithstanding the most careful treatment, conducted under the advice of the most eminent Parisian physicians, the patient died. On a *post mortem* examination, the viscera of the great cavities appeared perfectly sound, with the exception of the liver, which was hypertrophied, but its general parenchymatous structure seemed healthy, with the exception of the mucous membrane of the biliary ducts, which was thickened, softened, and readily separable from the tissue beneath it; the ducts were enlarged and filled with a quantity of pus, and this through the whole organ, so that wherever an incision was made it oozed out. The veins were particularly examined, and were found quite natural. The gall-bladder was full of bile, mixed with pus. The mucous membrane of the entire alimentary canal was healthy. For this disease Dr. Olliffe proposed the name of "Purulent Catarrh of the Biliary Ducts;" and exhibited to the Section a cast, representing the condition of the liver on dissection. The cast was formed of the new material used by Dr. Felix Thibert, of Paris, which possesses all the beauty of wax, and is much more durable, under all circumstances of temperature and casual violence.

Dr. HOUSTON read a paper 'On the means adopted by Nature in the suppression of Hæmorrhage from large Arteries.'—It was not the author's intention to go into an examination, or statement, of the theories laid down on this subject, derived from experiments on the lower animals; (these experiments, although they might solve some general question, were, he observed, frequently deceptive when applied to a particular case in human pathology;) but to state accurately the appearances he found in a very remarkable case which had come under his observation and treatment. In it the entire arm had been suddenly torn off. The patient, a stout, healthy man, had been caught by a belt in a mill and thrown down with much violence; the arm which was caught was entirely removed; the man got up and walked down three flights of ladders without knowing that he had lost his limb. When removed to the hospital, the constitutional symptoms were very slight; the stump was covered with grumous blood, and was much lacerated; the nerves, particularly the median, hanging out several inches. There was no hæmorrhage, but a slight oozing. The brachial artery, when found, was tumified, smooth and soft at the extremity; strongly jerked by the pulsation of the heart, but not pouring out one drop of blood. For the prevention of fatal hæmorrhage, a ligature was applied, and subsequently amputation was performed at the shoulder-joint; on examining the artery below where the ligature was applied, the inner and middle coats were found to be retracted fully half an inch within the external or cellular coat, and the interval was filled with coagulated blood and cellular tissue in shreds. This blood Dr. Houston deemed to be perfectly fluid when it came under his observation first. The "pursed up" extremities of the inner coats retracted within the cellular sheath, he believes to have been the efficient cause of the closure, so as to prevent a fatal effusion of blood. A preparation of the artery taken from the removed stump, slit up to show the condition of the coats, and a drawing of the parts in their recent state, were exhibited to the Section.

Dr. OLLIFFE remarked, that this case confirmed the views of Amussat on the effects of the torsion of arteries, which he adopted in place of ligature in many cases.—Dr. HOWE detailed a case of similar character.

FRIDAY.

Sir J. Pitcairn in the chair.—Prof. HARRISON read a paper, 'On the Cure of Aneurism by Pressure.'—The author alluded to the danger incurred in the usual mode of treatment by ligature, notwithstanding all the improvements introduced by Hunter and Scarpa; it was most desirable that another less hazardous mode should be adopted. He wished to bring before the Section a case of successful treatment by pressure. This mode, he was aware, was not new, but he abstained from the attempt to arrest completely the circulation in the aneurismal sac, which attempt caused the very danger arising from ligature—namely, inflammation and sloughing; in the revival of this method, the object was by restraining the flow of blood through the sac, without interfering with the collateral circulation, to gradually fill the sac with a coagulation, and thus procure its obliteration, while the collateral circulation becoming enlarged by degrees, the limb will be supplied with its necessary quantity of blood. On this principle four cases had been successfully treated this year in Dublin, the last of which having been under his care, he laid it before the Section. The learned Professor then detailed the case at length from the 9th of May, when it first came under treatment, to the 10th of August, when the disease appeared to be completely removed. The instrument at first used, was that described by Dr. Bellingham in the *Dublin Medical Journal*. The pressure was made in the groin (the case being one of popliteal aneurism), and kept applied for about an hour, at intervals, its degree being regulated by the patient himself. In the progress of the case the instrument was obliged to be changed, and one known by the name of L'Estrange's tourniquet was applied at a different point on the limb, but this becoming irksome, a modification of the Carpenter's clamp, suggested by the patient himself, was used, and continued until the aneurismal swelling subsided, and all pulsation had disappeared. The collateral circulation appeared well established, and the motions of the limb were unimpeded and free from pain. Although the symptoms of the disease had disappeared, Prof. Harrison had recommended the instrument to be continued for some time.

Dr. OLLIFFE said, that this mode of treatment was proposed about a century ago by an Italian surgeon, and had been adopted with some modification by M. Amussat, who applied a torsion process on the artery, exposing it, if necessary. In answer to the inquiry of a member, Dr. Olliffe said, he was not aware of any such operation having proved successful.—Dr. WOODROOFFE having witnessed Prof. Harrison's case, could bear testimony to the completeness of the recovery, and it was the more gratifying as the patient was naturally of a very excitable circulation; the sudden walking across the ward in which he lay, the slightest mental anxiety, would bring on a return of the pulsation, at a time that it seemed quite controlled by the instrument: from this circumstance he was induced to believe, that this was a case of such a character, as to warrant the highest expectations of its general applicability.—Dr. HOUSTON requested to know what was Prof. Harrison's opinion as to the

pathological changes that occurred in the sac during its obliteration. In reply, Dr. Harrison stated, that he had avoided making any statement which must be mere matter of theoretical opinion; fortunately, in these cases there had been no *post mortem* examination, from their uniform success, but he believed the sac became obliterated from both the coagulation of the blood, and from its contraction after the distending force of the circulation was removed.—Dr. Bevan suggested, that the coagulation of the blood during the pressure might be assisted and promoted by the passing of slight galvanic shocks through the sac.

Dr. Pickells read a paper, 'On the deleterious effects of Œnanthe Crocata.'—This plant, he observed, was known to be one of the virulent poisons of the indigenous British Flora, but was stated to be very rare in Great Britain by Dr. Smith, in the letter-press of 'Sowerby's Botany'; this was by no means true as regarded Ireland, particularly in Cork, and other southern counties, in which it grows in great abundance. Dr. Pickells collected nearly thirty cases of death by eating the root, the quantity in one instance not exceeding "the top of the finger"; he described the symptoms as exhibited by those cases,—insensibility, convulsions, locked jaw, delirium, and insanity; and pointed out the proper mode of treating such cases, by detailing several which were cured by the exhibition of strong emetics, diffusible stimulants, enemata, &c. He concluded by making some observations on the poisons used by the ancients in judicial executions; he thought that this might have been the plant used to destroy Socrates, and not the *conium maculatum* of modern botany, and from the symptom of insanity, he thought, that this was the plant designated as the "insane root" by the poet. This plant, Dr. Pickells stated to be equally injurious to black cattle and horses, as to man; he believed there was no direct antidote known; melted butter was given in some of the cases which recovered, and is popularly deemed a preservative against its effects. The root is frequently used as a discutient external application to tumours, and many of the accidents have occurred by eating it, when gathered for this purpose.

THURSDAY.

Section F.—STATISTICS.

President—Sir C. Lemon, Bart.
Vice-Presidents—Major Beamish, Sir W. Chatterton.
Secretaries—Dr. W. C. Taylor, D. Bullen, M.D.
Committee—The Archbishop of Dublin, The Archdeacon of Cork, Rev. Mr. Murphy, Rev. J. F. M'Namara, Sir R. Musgrave, Messrs. N. Musgrave, J. Thompson, J. Shuttleworth, H. Townsend, J. Heywood, Rev. W. Hincks, Mr. A. Abel, Sir T. Deane, Major S. Clerke, Messrs. R. Dowden, H. Biggs, The Mayor of Cork, Mr. F. Jennings, Dr. Hobart, Messrs. W. Fagan, C. Bianconi.

The Secretary read a paper, by the late W. Leatham, Esq. on the present infecting and demoralizing state of the lodging-houses for the travelling poor in the towns and villages of England. Sir T. Deane and Mr. T. Jennings gave an equally gloomy account of the lodging-houses in the city of Cork, and expressed a hope that the legislature would interfere. Mr. Dowden, however, thought that it would be necessary to exercise great caution in making legal regulations, and that over-legislation for the poor was the great error of our age and country.

Major Beamish read a statistical report on the physical and moral condition of the working classes in the parish of St. Michael's, Blackrock, near Cork. The whole population, in April 1843, was 2,630; the number of the working classes 2,258. The workhouse is the last resource, and there are only three paupers from Blackrock in the Cork Union. The wages of the labouring men average 5*s*. 10*d*. a week. The food of the poorest labourer consists of potatoes and milk, or potatoes and salt-fish, the cost of which is about 4*s*. 8*d*. per week for a family of six. The luxurious habits of the fishermen are remarkable; in a successful season, the weekly expenditure for a family of six averages 18*s*. per week. 472 children are educated in the various schools, and 142 pay for their education, an average of 3*l*. each annually. The moral condition of the working classes is extremely good.

'Contributions to Academical Statistics: Responsions,' (Oxford) by Prof. Powell.—The following details refer solely to the first examination, called "Responsions," which takes place at the end of the first year of academical residence, and the passing of which is an indispensable preliminary for becoming afterwards a candidate for a degree, that is, in general, for continuing in the University. The column of matriculations is taken from the author's communications in the Reports of the British Association for 1839 and 1842. The number of candidates being in general greater than that of the matriculations, arises from the circumstance of many offering themselves a second, or even a third time, after failure or withdrawal on a previous occasion. The mean results may show generally the proportion of those who either failing or withdrawing at this examination, do not go through more than the first portion of their academical course. But no exact proportion can be assigned, owing to the circumstance just mentioned.

Year.	Matriculated.	Candidates for Responsions.	Passed.	Failed.	Withdrawn.
1832	377	415	308	51	56
1833	384	420	325	42	53
1834	360	379	307	29	43
1835	369	395	292	45	58
1836	369	420	311	56	53
1837	421	431	295	73	63
1838	393	489	336	107	46
1839	404	483	375	70	38
1840	396	408	326	53	29
1841	441	412	338	40	34
Mean ..	391	425	321	57	47

A paper was read from Mrs. Gilbert, on the progress of the Wellingdon agricultural school; it added little to the information already contributed by that lady on her industrial schools and system of spade husbandry.

FRIDAY.

The promise of a paper by Dr. W. C. Taylor 'On the Irish Silk Manufacture,' which was to be accompanied by specimens of the finest poplins and tabinets produced by the looms of Dublin, attracted an unusually large concourse to this Section.—Dr. Taylor commenced by stating that the silk-manufacture was introduced into Ireland by the French refugees, whom the revocation of the Edict of Nantes compelled to abandon their country. There are no certain records for fixing the precise date when silk-weaving was commenced in Dublin, but it is generally believed that an ancestor of the present respected family of the Latouches commenced the weaving of tabinets or poplins and tabbareas in the liberties of Dublin about the year 1693. A great and fatal error was made by the new settlers in the very outset of their career; they adopted the principle of excluding the native Irish from the benefit of all the improved arts which they introduced, refusing to receive any of them as apprentices. The manufacture was consequently an exotic forcibly prevented from taking root in the soil, and deriving its support chiefly from a system of artificial patronage. So weak, indeed, was it, that, in 1733, the Irish manufacturers of silks and stuffs waited on Archbishop Boulter, who then virtually ruled Ireland, to obtain his influence in passing a law to prohibit the wearing of East India goods. In the year 1764, an act was passed to place the silk trade under the direction of the Dublin Society, as far as it extended within two miles and a half round the Castle, and the Society was empowered to make such laws and regulations for its management as they should deem necessary. It has been generally asserted, that under this system of management the silk trade attained a high degree of prosperity; in a paper furnished to the Hand-Loom Commissioners, it was stated that in the year 1775 there were 3,400 looms in Dublin in full employment. That this return is grossly exaggerated, will appear obvious from the following considerations. In the thirteen years, from 1752 to 1764, the average imports of silk into Ireland were

15,760 lb. Manufactured.
48,132 lb. Raw.
275 lb. Ribband.

In the period, from 1765 to 1777, when the bounty system was in full operation, the following were found to be the averages—

18,200 lb. Manufactured.
45,990 lb. Raw.
1,060 lb. Ribband.

That is, the imported fabrics had increased, while the raw material, to be worked up in Ireland, had diminished. This decline appears to have continued, and, in fact, we find, from Parliamentary documents, that in 1784 there were only 800 silk-weavers at work in Dublin, and that even these were not all in constant employment. In 1786 Parliament withdrew its support from the Society's silk warehouse. The trade was altogether suspended by the insurrection of 1798, and in 1800 it was deemed necessary to protect it by a duty of 10 per cent. on the introduction of foreign and British silks. Soon after this, the silk-manufacture began to be established in Lancashire and Cheshire, while in Ireland the trade was severely injured by combinations and trades-unions; several excellent workmen, unable to endure the arbitrary regulations established by these self-constituted bodies, removed to England, and, at this hour, there are more Irish than English engaged in silk-weaving at Macclesfield. In 1826 the protecting duties expired, and as the silk-weavers refused to modify their arbitary laws so as to meet the altered circumstances of the times, whole silk-weaving was destroyed as a branch of industry in Dublin. The poplin or tabinet manufacture, in which the weft is worsted, is always classed with the silk-trade in the returns made to the Irish Parliament. There are at present about 280 men and 70 women engaged in the poplin manufacture, assisted by 130 children employed in winding the bobbins or quills for the shuttles, at ages varying from 7 to 13 years. As the poplin manufacture is a very limited branch of industry, the Society of Operative Weavers has been able to maintain a fixed and uniform rate of prices for several years; and the master manufacturers generally concur in the system, because in an article of limited consumption, the use of which is exclusively confined to the wealthier classes of the community, it is of far greater importance to maintain the acknowledged superiority of the article than to produce it at a lower cost. The greatest improvements in the manufacture have resulted from the introduction of the Jacquard loom, and from a machine of recent invention for introducing a variety of colours in fancy brocading by a more effective process than that which was anciently employed. In what are called French poplins, cotton is very freely introduced, and though they are thus rendered much cheaper than the Irish, they are obviously inferior in richness and beauty, and they have been found still more so in permanence of colour and durability of material. The Irish poplins are highly esteemed abroad, and they are occasionally ordered in limited quantities for the principal continental courts, the United States of America, and the East and West Indies. Silk has not been thrown in Dublin since the year 1837; it is chiefly imported from England, and the consumption of organzine is estimated at about 18,000 lb. annually. There are about 240 poplin looms in Dublin, 20 velvets, and a few furniture tabbareas; so that the poplin may be regarded as the only branch of the silk-manufacture which has a healthy existence in Ireland. It has been already stated, that the high price of the fabric must always restrict the manufacture of poplin within what large mill-owners would consider exceedingly narrow limits, particularly as it is believed impossible to apply power successfully to this species of weaving.

A paper was read from Mr. I. Catlow, on the natural relation between the anniversary season of birth and death, and the tendency to death in the natal month. Some strange theories of the author's prevented this paper from receiving the attention which such zeal and industry, bestowed on a more practical subject, must have commanded.

Dr. D. Bullen read a paper on the statistics of the parish of Kilmurry, a rural district in the barony of West Muskerry, in the county of Cork, which exhibited a striking improvement in the physical and moral condition of the people, arising chiefly from the temperance movement and the great advance made in education.

The discussion which followed the reading of this paper, turned chiefly on the advantages of industrial education, and it was stated that large quantities of muslin are now sent from England to be worked in Ireland, one establishment alone paying more than 20,000*l*. annually for needlework in Ireland.

THURSDAY.

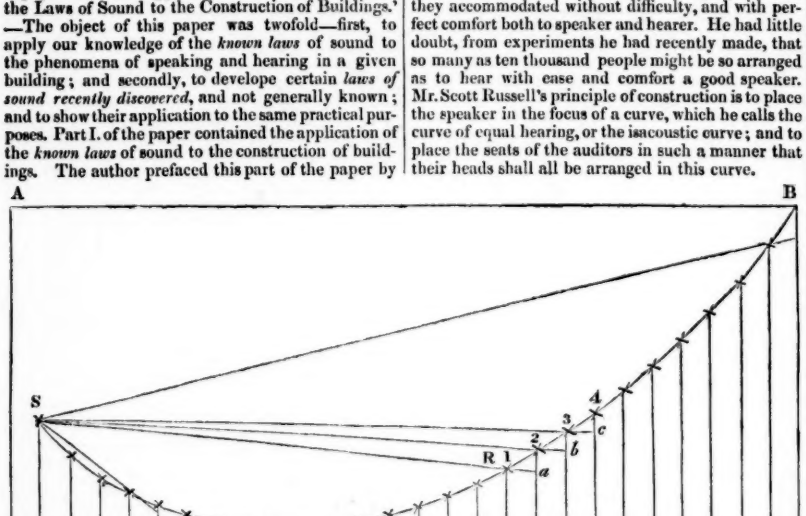
SECTION G.—MECHANICAL SCIENCE.

President—Prof. J. MACNEILL.
Vice-Presidents—Messrs. J. TAYLOR, F. G. BERGEN, Sir T. DEANE.
Secretaries—Messrs. J. THOMSON, R. MALLET.
Committee—Messrs. J. S. Russell, C. Vignolles, The Ven. Archdeacon Kyle, Messrs. J. I. Hawkins, —Chanter, W. Jessop, E. Hodgkinson, R. Taylor, J. S. Patrick, J. Perry, A. Fox, J. Wilson.

Prof. Macneill, President, in the chair.

A paper, by Mr. Ryan, 'On the Application of Water as a Moving Power,' was read. In principle, the machine described resembled Barker's mill.

Mr. SCOTT RUSSELL communicated to the Section a paper 'On the Application of our Knowledge of the Laws of Sound to the Construction of Buildings.' —The object of this paper was twofold—first, to apply our knowledge of the *known laws* of sound to the phenomena of speaking and hearing in a given building; and secondly, to develope certain *laws of sound recently discovered*, and not generally known; and to show their application to the same practical purposes. Part I. of the paper contained the application of the *known laws* of sound to the construction of buildings. The author prefaced this part of the paper by describing a form of building which had been found to be perfectly adapted to the purpose of seeing and hearing with distinctness and comfort. This arrangement of buildings had been described by him in a paper communicated to the Royal Society of Arts of Scotland some years ago, but had not been actually constructed on a large scale until lately, when a young architect, Mr. Cousins, of Edinburgh, having been employed to construct some large buildings, and alighting on this paper, adopted its principles. Buildings were now erected on this principle, and contained from fifteen hundred to three thousand people, whom they accommodated without difficulty, and with perfect comfort both to speaker and hearer. He had little doubt, from experiments he had recently made, that so many as ten thousand people might be so arranged as to hear with ease and comfort a good speaker. Mr. Scott Russell's principle of construction is to place the speaker in the focus of a curve, which he calls the curve of equal hearing, or the isacoustic curve; and to place the seats of the auditors in such a manner that their heads shall all be arranged in this curve.



Let A B C D represent the vertical section of a building for public speaking, S the height of the speaker on his platform, D C the floor of the building: then, for the purpose that all the auditors should hear and see equally well, they should be placed on the line S R B of the acoustic curve. This curve is constructed in the following manner: D C is first divided into equal parts, to represent the usual breadth of a sitting, and vertical lines are drawn through these points. R being the place of the auditor 1; the place of auditor 2 behind him is assigned thus—join S R, and produce it to *a*—from *a* upwards set off $a\ 2 = 9$ inches, and 2 is the proper height of the next spectator. Then join S 2, produce it to *b*, and set off $b\ 3 = 9$ inches, and 3 is the place of the third spectator; and so on for the place of every spectator. Such was the vertical section of the building. The horizontal section was either circular or polygonal, having the speaker at the centre. This form had been found perfectly successful in affording the highest degree of comfort both to hearer and speaker; therefore he submitted it with confidence to the Section, as a practical and established principle, more than as a mere theoretical speculation. The remainder of this paper was then adjourned till the next day.

Mr. H. DIRCKS read a paper on the construction of Luntley's Shadowless Gas-burners, and the shape of Glass Chimneys for Lamps. The object of the burner was to bring the gas issuing from the small orifices into direct contact with atmospheric air at the ordinary temperature. Mr. Dircks contended that the heating of the air previously to its combustion diminishes the brightness of the flame; because, while each volume of carburetted hydrogen gas requires ten volumes of atmospheric air for its perfect combustion, the expansion of the air by heat necessarily reduces the weight of oxygen contained in the same volume of air; and therefore, unless some means be adopted of increasing the supply of air, the oxygen would be deficient. Another alleged advantage of the burner arises from the small quantity of metal through which the orifices are perforated, for by that means a smaller quantity of heat is abstracted in burning. The peculiarity in the form of the glass chimney consists in having the upper end enlarged. The effect of this enlargement, Mr. Dircks said, was to open the top of the flame and increase its brightness.

Mr. J. TAYLOR explained to the meeting the recent improvements of Dr. Faraday in the combustion of gas; and a short discussion arose, in which Mr. Hawkins and Dr. Scoresby took part, on the advantage of enlarging the upper ends, not only of glass chimneys, but of all chimneys for the combustion of fuel.

EVENING MEETING.—THURSDAY.

COL. SABINE opened the proceedings by apologizing for the absence of Lord Francis Egerton, who was detained by sickness in England; and he proposed that the Marquis of Northampton should take the chair; he was the long-tried friend of the British Association, and ever ready to give his services in the cause of science.

The Marquis of NORTHAMPTON having taken the chair, and after dwelling at some length on the merits of the Earl of Rosse, as a cultivator of science, introduced him as President to the meeting.

The Earl of ROSSE then took the chair; and, after a short delay, rose to deliver the annual address. He said,—

I am sure no one can feel more sensible of the kindness of my noble friend, in condescending to notice my very humble exertions in the cause of astronomical science, and no one more conscious that the compliment so flattering is undeserved, and, I must say, that I should be but too happy were it now in my power to resign into his abler hands those duties which have just devolved upon me; for in that case I am sure the Association would have nothing to desire. But as that is impossible, and as it has been of late the practice for those who have occupied the position in which I find myself most undeservedly placed, to offer a few observations on the objects of the Association at the first General Meeting, I feel I have no other course but to solicit, most earnestly, your kind indulgence. Such a request you would not perhaps consider unreasonable from any one who laboured under the embarrassment necessarily arising from the consciousness of his own inability adequately to discharge the duties intrusted to him, augmented, as it must be, tenfold, by that awe which it is impossible not to feel in the presence of men the most distinguished in the varied departments of human knowledge. But perhaps, in this instance, your kindness will allow there is an additional claim to your indulgence. This very embarrassing position is not of my own seeking. To have aspired to the high honour of presiding at one of your meetings, would have been an act of presumptuous vanity which I never did, which I never could have contemplated. A communication from Manchester, announcing that the Association had actually made their selection, was the first intimation which reached me that my name had even been thought of. Under such circumstances, to have declined the honour, and to have shrunk from the responsibility, would, in my opinion, have been inconsistent with proper respect: it remained, therefore, but to endeavour to do the utmost, trusting that your kindness would overlook all omissions, and that the vigilance of the many most able men who guide the proceedings of this Association would detect and correct all important errors. But, however arduous the task, however painful the duty of addressing a meeting so constituted as this is, it is impossible not to participate in the gratification which all must feel in seeing so many men of eminence assembled to assist each other in promoting objects of such deep and general interest. The man of the world who, busied in the changing scenes of life, watches with fixed attention the actions of men, while he occasionally perhaps casts a passing glance at science as it happens to present to him some new wonder—he cannot fail to look with surprise, and, I may add, with gratification, at a meeting so large, (and in this country too,) from which politics are altogether excluded. Here he will see no angry conflict of passions, none of that feeling of bitterness and animosity, which never fails to attend the contests between man and man, between different classes in the same country, or between different nations: all proceeding from the same cause, or nearly so—a struggle for power; in other words, a struggle for dominion over man, and through him over the material things of this world. But in such a contest, what is gained on one side must be lost on the other. Here, on the contrary, however much may be gained, there can be no loss to any one. This is no paradox; for here the object of the contest is to increase man's knowledge, and with it at once his power over the material things of this world. It is plain, therefore, that in the objects we have in view, all have an equal interest; that the contest we are engaged in is one of friendly rivalry, all competing in their efforts to promote that knowledge, that science, which has been given to us as the reward of industry, and by which the gifts of a bountiful Providence may be increased and improved, for the benefit of man, to an extent almost unlimited.

But, Gentlemen, there are, perhaps, many here who have not been present at other meetings of the Association, who know nothing of the objects actually accomplished by it, and who are not acquainted with the records of its proceedings annually published. The question, therefore, may be asked, Does this Association actually promote the advance of science, and if so, by what means?

For a complete, detailed, and triumphant answer to such a question, I must refer to the printed Reports of the proceedings. It would be unpardonable on my part to take up your time in endeavouring to perform a task, no doubt imperfectly, which has been achieved in the most complete manner by the very able men who, on former occasions, have undertaken it. I shall, therefore, only mention that original researches in various departments of science, and on a great scale, have been carried on by the Association, upon which large sums have been expended under the most skilful management, and with very important results. The sum so expended exceeds 8,000*l*. Much also has been accomplished for science by the resources of the State, applied under the advice of the Association; and within a few days it has been officially announced that the sum required for an important astronomical object, the publication of the Observations of Lacaille and Lalande, has been granted by Government.

For the previous reduction of the observations we are indebted to the zeal, ability, and public spirit of Mr. Baily and Mr. Henderson, two members of the Association, who gave their services gratuitously,

and took upon themselves the laborious duty of superintending the work. The actual expense incurred, amounting to 1,400*l.*, was defrayed out of the funds of the Association.

I am also happy to be enabled to announce, that with respect to another great undertaking you all have heard of, which has been carried on at the public expense, under the gratuitous superintendence of a distinguished philosopher,* a most favourable notice has been published by a foreign geometrician of eminence: that notice, or essay, perhaps I should call it, will appear translated in the next number of the Scientific Memoirs. I regret I have not been able to procure a copy of the original essay, and therefore cannot say anything more precise about it; still I cannot refrain from mentioning it as a subject of much interest in the scientific world. In addition to the researches carried on by the Association, much has been done to aid research. A very important series of papers has been written and published in the annual volumes, under the head of "Reports on Researches in Science." Each of these Reports is, in fact, a complete and accurate general view of the actual state of that science, or branch of science, to which it refers, briefly, but profoundly, touching upon every point of interest, so that the man about to undertake the task of endeavouring to advance any particular branch of science may at once, by referring to one of these Reports, know where to look for that information which is indispensable to success, namely, an exact knowledge of all that has been done by others.

These Reports are so numerous, and embrace so wide a field, that to give any analysis of them within reasonable limits, would be impossible; and to form an adequate estimate of their importance, it is absolutely necessary to examine them in detail, just as they have been published. However, it appears to me, that without presupposing any knowledge whatever of these matters, or of the past history of this Society—without assuming that it has in any one instance effected, by joint co-operation, important and laborious researches in the cause of science, still that, even to a person who will not take the trouble of inquiring and informing himself, an answer to the question, Does the Association advance science? may be returned, short but conclusive. The answer I should give would be this: I appeal to the experience of every man at all conversant with the history of science, and with the working of scientific societies, whether it is not an indisputable fact, proved by experience, that all such societies, when properly conducted, are powerfully instrumental in promoting the advance of science.

Unfortunately, it sometimes happens, that when a new society springs up, it in some degree interferes with a society previously existing. This Association, however, interferes with no other society, and therefore, setting aside the great objects actually accomplished, far beyond the pecuniary resources of other societies, and for which I take no credit, because I presume for a moment they are unknown, it appears to me, nevertheless, to follow irresistibly, that this Association, acting precisely as other learned societies do—using the same means, and exerting a similar indirect influence, must likewise, just as they are, and on a scale just proportioned to its magnitude, be eminently useful in urging on the advance of science.

It may, perhaps, be worth while to inquire for a moment in what way the associations of scientific men promote science. The inquiry, however, cannot alter the fact that they do so, for that fact is based on experience. There are many and very obvious ways in which they do so. I shall mention but one.

The love of truth; the pleasure which the mind feels in overcoming difficulties; the satisfaction in contributing to the general store of knowledge; the engrossing nature of a pursuit so exalted as that of diving into the wonders of the creation; all these are very powerful incentives to exertion; and under their influence great works have been undertaken in the cause of science, and carried through to a successful termination; but I believe few will be disposed to deny that further inducements must be highly useful.

Let it be for a moment recollected, that where any, even the most trifling, step in advance has been gained, except, perhaps, the accidental discovery of a simple fact, there has usually been a long and laborious course of previous preparation. It has been necessary, even in the more popular sciences, to know accurately, first, what had been done by others; to see distinctly the boundary line between the known and the unknown, before there was the least chance of effecting anything; and in the higher departments of science such is the time to be expended, so great the toil to be endured in ascending to that elevation, from which the difficulties to be encountered but just begin to appear, that the task is one to which the undivided energies of man exerted for many years are no more than commensurate.

But the necessary preparations accomplished, then the real difficulties commence. Some perhaps apparently new principle suggests itself; it is followed, with great expenditure of time and labour, to its remote consequences, and it turns out to be perfectly barren and worthless.

One disappointment succeeds another, and years of toil pass away and no result. Under these trying circumstances the associations of scientific men afford their friendly aid; they soothe disappointment, excite hope, and prepare the way for redoubled exertion: they call into active existence that principle which has been implanted in our nature for the noblest purposes—the legitimate ambition of meriting and receiving the approbation of our friends and associates. In the ordinary circle of acquaintances, the man engaged in scientific pursuits will find very few, if any, who can understand and appreciate his labours; but in such associations as this, there are always many who see exactly the object aimed at, the difficulties to be encountered, and who are ready to acknowledge with gratitude every successful effort in the cause of science.

It is thus, without having recourse to other considerations, that I account for the fact, that the associations of scientific men, even when they employ no large funds, and perform no gigantic labours, as this society does, still, by their indirect action, accelerate very greatly the progress of scientific discovery.

But this Association performs other important services. It appears to me to diffuse over scientific inquiry (if I may so express myself) a salutary influence—a healthy vigour of action. What more calculated to dispel that feeling of languor and weariness, the consequence of excessive mental labour long continued, than the freshening excitement of an interchange of ideas with men to whom the same course of research had long been an object of interest? What more likely to extinguish any petty jealousy which might arise,—and scientific men, like other men, have their weaknesses sometimes,—than to bring all the parties together in friendly intercourse, where they cannot but feel they have a common object, and are working in a common cause—the discovery of truth?

Again: should the mind, pursuing in retirement some single scientific object, raise up to itself notions exaggerated and unreal, of the importance of that object, and then, elated and misled by some trifling success, should it throw off the garb of humility, the characteristic of science pursued in a proper spirit, what more calculated to dispel the illusion than these meetings, where the man, however eminent in that branch of science to which he may have devoted his almost exclusive attention, will be sure to find others immensely his superior in every other department of human knowledge? And it is not merely for the sake of individuals engaged in the pursuit of science that these consequences are so valuable; it is also for the sake of science itself.

It is important that science should stand before the world in an aspect which is not forbidding, and we may rest assured of this, that wherever there may be the least trace of petty jealousy, of prejudice, or of pride, the world will not be slow to discover it; and as science claims as one of its noblest attributes, the power of exalting and enlarging the mind, and of arming it against such weaknesses, it will thus be exposed to the charge of having preferred pretensions to which it has no just title.

I will not detain you by enlarging upon the other obvious beneficial consequences of these meetings, such as the opportunities they afford for the free discussion of questions upon which the concentrated knowledge of individuals may be brought to bear with so much success—the opportunities they afford for the formation of new friendships between scientific men, often fraught with consequences very important to science, and the necessary tendency of them to encourage a taste for science. Upon all these I will abstain from offering any observations. There is, however, one consequence of these meetings, to which, if you will permit me to detain you a moment longer, I will just advert.

It has been remarked by a modern traveller of considerable depth of observation, that he had always found in the children of the fields a more determined tendency to religion and piety, than amongst the dwellers in towns and cities, and that he conceived the reason to be obvious—that the inhabitants of the country were less accustomed to the works of man's hands than to those of God. May not the observation be of more extensive application than at first sight appeared? and if it be true that where we dwell constantly in large cities the mind is liable to be led astray by the habitual contemplation of the works of man, forced upon it imperceptibly by the continual succession of ideas—all of the same character—all originating in objects which have been shaped and fashioned by man, may it not also be true that it is equally liable to be led astray where it concentrates its whole attention, and exerts its whole energy without relaxation in the contemplation of the greatest of all human works, that which the labour of so many centuries has raised up—the structure of the abstract sciences? And if that be so, what more calculated to unbend the mind, and to divert for a season the current of ideas into other channels, than these periodical meetings, where, in the proceedings of every section, matter will be found of the deepest interest to every true philosopher; and where, however dissimilar the facts, however varied the inferences, the result will everywhere be still the same—that of putting forward more prominently in bold relief the wonderful works of creation? It appears to me, if I may presume to offer an opinion on such a subject, that the continual progress of discovery is destined to answer objects far more important than the mere improvement of the temporal condition of man. Were there a limit to scientific discovery, and had we reached that limit, we should be in the condition of a man who, with the most splendid landscape before him, was insensible of its beauty because the charm of novelty had passed away. Each successive discovery, as it brings us nearer to first principles, opens out to our view a new and more splendid prospect, and the mind, led away by its charms, is carried beyond and far above the petty and ephemeral contests of life: but the more rapid the discoveries are, the more powerful the charm, and therefore great is the motive for exertion; and in labouring in this cause there is this gratifying reflection, that our labours cannot injure our successors, for the region of discovery is rich beyond the powers of conception; and however much we may draw from it we shall not leave its treasures exhausted—no, not even diminished, because they are infinite. This Association has already accomplished much; I feel persuaded it will accomplish much more: but of this we may rest assured, that however long it may endure, and I see no principle of endurance which other societies have that is here wanting, it will find an ample and an enlarging field of useful employment.

The Treasurer then read the Annual Report of receipts and expenditure, as follows:—

TREASURER'S ACCOUNT,
From the 23rd of June, 1842, to the 14th of August, 1843.

RECEIPTS.				£.	s.	d.
Balance in hand from last year's account				538	14	6
Life Composition received at the Manchester Meeting and since ..	869	0	0			
Annual Subscriptions..ditto..ditto	868	0	0			
				1737	0	0
Compositions for Books (future publications)	203	0	0			
Moieties of £5 Compositions refunded	15	10	0			
				192	10	0
Dividends on £3500 in 3 per cent. Consols, 18 months, to July 1843				247	10	0
Received on account of sale of Reports, viz.:—						
Volume 1st, 2nd edition	7	4	8			
,, 2nd	6	18	5			
,, 3rd	7	19	0			
,, 4th	8	2	0			
,, 5th	7	17	11			
,, 6th	10	7	11			
,, 7th	12	9	0			
,, 8th	16	4	11			
Carried forward.....	£ 77	3	10	2715	14	6

* Mr. Babbage.

Brought forward.....	£77	3	10	2715	14	6
Volume 9th	31	10	0			
„ 10th	57	8	5			
„ 11th	11	11	0			
Lithographs	2	2	0			
				179	15	3
Received for Ladies' tickets at the Manchester Meeting				331	0	0
Ditto, for tickets to the Sections only.....				33	0	0
Ditto, from Bankers at Manchester, interest on cash				11	14	7
				£3271	4	4

PAYMENTS.

	£.	s.	d.
Sundry Disbursements by Treasurer and Local Treasurers, including the expenses of the Manchester Meeting, Advertising, and Sundry Printing	328	8	10
Paid for Printing, &c. the 11th Report	438	0	9
Ditto, on account of Engraving for 12th Report	7	19	6
	446	0	3
Ditto, Salaries to Assistant General Secretary, Accountant, &c.	435	0	0
Ditto, on account of Grants to Committees for Scientific Purposes, viz.:—			
Revision of the Nomenclature of Stars, 1842.....	2	0	0
Reductions of Stars, British Association Catalogue	25	0	0
Anomalous Tides, Frith of Forth	120	0	0
Hourly Meteorological Observations at Kingussie and Inverness, 1842.....	47	12	8
Ditto ditto ditto 1841....	30	0	0
Meteorological Observations at Plymouth, 1841	5	0	0
Ditto ditto 1842....	50	0	0
Ditto, Whewell's Anemometer, do.	10	0	0
Ditto, Osler's do. do.	20	0	0
Reduction of Meteorological Observations.....	30	0	0
Meteorological Instruments and Gratuities, 1841	39	6	0
Construction of Anemometer at Inverness, 1841	56	12	2
Magnetic Co-operation	10	8	10
Meteorological Recorder for Kew Observatory.....	50	0	0
Action of Gases on Light, 1841 ..	13	3	0
Ditto ditto ditto 1842 ..	5	13	1
Establishment at Kew Observatory, Wages, &c..... 38 7 6			
Do. do. Repairs, Furniture, and Sundries 94 17 1			
	133	4	7
Experiments by Captive Balloons, 1842	81	3	0
Oxidations of the Rails of Railways	20	0	0
Publication of Report on Fossil Reptiles.....	40	0	0
Coloured Drawings of Railway Sections.....	147	18	3
Registration of Earthquake Shocks	30	0	0
Uncovering Lower Red Sandstone, near Manchester.....	4	4	6
Report on Zoological Nomenclature	10	0	0
Vegetative Power of Seeds, 1841	1	14	0
Ditto ditto 1842	3	10	8
Marine Testacea (Habits of)	10	0	0
Marine Zoology	10	0	0
Ditto 1841.....	2	14	11
Preparation of Report on British Fossil Mammalia, 1842.....	100	0	0
Physiological Operations of Medicinal Agents, 1842	20	0	0
Vital Statistics, 1841	36	5	8
Additional Experiments on the Forms of Vessels, 1841	70	0	0
Ditto ditto ditto 1842....	100	0	0
Reduction of Observations, ditto	100	0	0
Morin's Instrument and Constant Indicator, 1842.....	69	14	10
Experiments on the Strength of Materials	60	0	0
	1565	11	2
Balance in the Bankers' hands	432	16	11
Ditto General Treasurer's hands	40	11	5
Ditto Local Treasurer's hands ..	25	15	9
	496	4	1
	£3271	4	4

Sir W. HAMILTON proposed the thanks of the Irish people to the British Association, for having visited the country, which being carried by acclamation, R. I. MURCHISON, Esq. replied, and in turn proposed a vote of thanks to the local officers for the excellence of their arrangements. In acknowledging this vote, the MAYOR OF CORK lamented the apathy exhibited by the gentlemen of the county of Cork, who had not shown that interest in the Association, which the value of its labours and their own position as country gentlemen ought to have suggested.

GENERAL COMMITTEE.

MONDAY.

Invitations, not to be pressed unless circumstances required, were presented from Derby and Hull, but it was generally known that all parties had agreed to hold the next meeting at York; and a resolution to this effect was passed by acclamation. The following noblemen and gentlemen were elected office-bearers for the next year:—

Rev. J. Peacock, Dean of Ely, *President*.—Earl Fitzwilliam, Viscount Morpeth, J. S. Wortley, Esq., Sir D. Brewster, Prof. Faraday, Rev. Vernon Harcourt, *Vice-Presidents*.—W. Hattfield, Esq., Rev. Mr. Scoresby, — Meynel, Esq., W. West, Esq., *Secretaries*.—W. Gray, Esq., *Local Treasurer*.

It was resolved, that the meeting should be held in the course of September, the particular day to be determined by the London Council. The following gentlemen were appointed to the Council for the ensuing year:—Sir H. de la Beche, Dr. Buckland, Dr. Daubeny, Prof. T. Graham, G. B. Greenough, Esq., Leonard Horner, Esq., Eaton Hodgkinson, Esq., Robert Hutton, Esq., Sir Charles Lemon, C. Lyell, Esq., Prof. Lloyd, D. Macneill, Esq., Prof. M'Cullagh, the Marquis of Northampton, Prof. Moseley, Dr. Richardson, Prof. Sedgwick, Col. Sykes, W. Thompson, Esq., Prof. Wheatstone, Rev. Mr. Whewell, and Dr. Williams, with the officers of the Association.—The General Secretaries and Treasurer were re-elected.

To CORRESPONDENTS.—P. C. B.—E. F.—H. K. W.—received.

W. C. had better write to the Commissioners.

The following Periodical Works, for SEPTEMBER, 1843, will be published by Charles Knight & Co.

THE PENNY MAGAZINE, Part XXXII. (New Series.) price 6*d*.

KNIGHT'S CABINET EDITION of SHAKSPERE, Vol. VIII., bound in cloth, with gilt edges, price 2*s*. 6*d*. To be completed in Ten Volumes. Published also in Weekly Numbers, each containing a separate Play, price 6*d*.

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22, Ludgate-street, August 21, 1843.

8, New Burlington-street, August 26, 1843.

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The principle adopted by the Universal Life Assurance Society of an annual valuation of assets and liabilities, and a division of *three-fourths of the profits* among the assured, is admitted to offer great advantages; especially to those parties who may wish to appropriate their proportion of profit to the reduction of future premiums.

The following table will show the result of the last division of profits, as declared on the 10th of May, 1843, to all persons who had on that day paid six annual premiums:—

Age when Policy was issued.	Date of Policy.	Sum Assured.	Original Premium.	Reduced Annual Premium.
20	On or before 10th of May, 1838.	£1,000	£19 6 8	£9 13 4
30		1,000	24 8 4	12 4 2
40		1,000	31 10 0	15 15 0
50		1,000	42 15 0	21 7 6
60		1,000	66 11 8	33 5 10

(By order of the Board)
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By order of the Board,
JOHN CHARLES DENHAM, Secretary.

London, August, 1843.

THE uncertainty of life ought strongly to influence those who have relatives and families dependent on them, to have recourse to the benefits of Life Assurance, no less as a matter of duty than of interest. The following actual cases quoted from the books of the SCOTTISH WIDOWS' FUND LIFE ASSURANCE SOCIETY will place in a very strong view, not only the ORDINARY BENEFITS of Life Assurance, but also the very great advantages derived from a connexion with this Society.

Age at Entry.	Date of Assurance.	Date of Decease.	Interval between Assurance and Decease.		Original sum Assured.	Amount of Additions by way of Bonus.	Total Sum paid.
			Years.	Mos.			
43	1815, Jan.	1837, Feb.	22	1	£500	£258 16 1	£758 16 1
35	1816, Mar.	1834, Nov.	18	8	100	45 9 11	145 9 11
51	1817, Nov.	1831, Apr.	13	5	500	186 14 0	686 14 0
46	1818, June	1832, Apr.	13	10	800	313 16 9	1113 16 9
36	1822, Dec.	1835, Dec.	14	10	885	207 17 9	1092 17 9
36	1822, Apr.	1832, Oct.	10	6	1500	250 17 6	1750 17 6
25	1823, Dec.	1832, Dec.	9	..	2500	380 1 3	2880 1 3
40	1830, May	1830, Dec.	..	7	500	....	500 0 0
33	1832, Mar.	1832, Apr.	..	1	1000	....	1000 0 0

The Profits at 31st December, 1838 were sufficient to secure, 1. A RETROSPECTIVE BONUS OF TWO PER CENT. PER ANNUM, not only on the original Sum assured, but likewise on the BONUS ADDITIONS PREVIOUSLY DECLARED. II. A CONTINGENT PROSPECTIVE BONUS OF TWO PER CENT. PER ANNUM on the accumulated amount of the original sum assured, and the Bonus Additions previously declared—to be paid from 31st December, 1838, on all Policies of 5 years' standing that may emerge before 31st December, 1845.

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LONDON OFFICE, 7, Pall Mall.
HUGH M'KEAN, Agent.

BRITANNIA LIFE ASSURANCE COMPANY, 1, Princes-street, Bank, London.

This Institution is empowered by *Special Act of Parliament*, (4 Vict. cap. 9), and is so constituted as to afford the benefits of Life Assurance in their fullest extent to Policy-Holders, and to present greater facilities and accommodation than are usually offered by other Companies. The decided superiority of its plan, and its claim to public preference and support, have been proved incontestibly, by its extraordinary and unprecedented success.

Assurances may either be effected by Parties on their own Lives, or by Parties interested therein on the Lives of others.

The effect of an Assurance on a person's own life is to create at once a property in reversion, which can by no other means be realized. Take, for instance, the case of a person at the age of thirty, who by the payment of 3*l.* 3*s.* 4*d.* to the Britannia Life Assurance Company, can become at once possessed of a bequeathable property, amounting to 1000*l.*, subject only to the condition of his continuing the same payment quarterly during the remainder of his life,—a condition which may be fulfilled by the mere saving of RIGHT SHILLINGS weekly in his expenditure. Thus, by the exertion of a very slight degree of economy —such, indeed, as can scarcely be felt as an inconvenience, he may at once realize a capital of 1000*l.*, which he can bequeath or dispose of in any way he may think proper.

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The very moderate Rate of Premium when viewed as combined with *perfect security* to the assured.

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The assurance of a *certain bonus*.

The facility for *securing debts*.

The allowance of *half* the Annual Premium to remain unpaid for *seven years*, and

The accommodation of *temporary loans* to the Assured on available security. Immediate and deferred Annuities are granted by this Society on terms advantageous to the Public.

A liberal Commission allowed to Professional Gentlemen and Agents introducing business to the Office.

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The superior advantages to those Assured with this Society will be best understood by a comparison of its principles and a reference to the last Annual Bonus declared on Policies of five years' standing, viz.:

Entry	Policy No.	Age	Sum	Annual Premium.	Bonus added.	Cash Bonus.	Premium reduced.
			£	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1837	39	39	1000	67 8 4	132 14 6	58 19 9	4 19 4
1838	114	56	3000	175 15 0	296 9 7	123 0 6	16 9 7

Policies now entered upon entitled to participation in next Annual Division. Two-thirds of all premiums paid can be borrowed by the assured without loss of Policy.

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NORTH BRITISH INSURANCE COMPANY, 4, New Bank-buildings, and 10, Pall Mall East.

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LIFE DEPARTMENT.—This Institution is incorporated by Royal Charter, and is so constituted as to afford the benefits of Life Assurance in their fullest extent to Policy-holders, combined with perfect security in a fully subscribed Capital of One Million, besides an Accumulated Premium Fund of Three Hundred and Fifty-five Thousand, and an Annual Revenue, from Life Premiums alone, of Eighty-two Thousand Pounds.

The last Bonus declared averaged 37 per cent. on the premiums paid. The next appropriation of profits will be made in December, 1844; and persons who now insure will participate therein according to the number of annual premiums paid in the interval.

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Sum Assured.	Time Assured.	Sum added to Policy.
£1000	6 Years 10 Months	£136 13 4
1000	4 Years	80 0 0
1000	3 Years	60 0 0
1000	1 Year	20 0 0

Every information will be afforded on application to the Resident Directors, Edward Boyd, Esq. and E. Lennox Boyd, Esq., of No. 8, Waterloo-place, Pall Mall, London.

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